Increasing Long Acting Reversible Contraception Use in Primary Care: Removing the Barriers

Jessamyn Phillips
jcphillips2@dons.usfca.edu

Follow this and additional works at: https://repository.usfca.edu/dnp

Part of the Nursing Commons, and the Women's Health Commons

Recommended Citation
Phillips, Jessamyn, "Increasing Long Acting Reversible Contraception Use in Primary Care: Removing the Barriers" (2019). Doctor of Nursing Practice (DNP) Projects. 159.
https://repository.usfca.edu/dnp/159
Increasing Long Acting Reversible Contraception Use in Primary Care: Removing the Barriers

Jessamyn Phillips, DNP, MPH, BSN, RN

University of San Francisco

Dr. Prabjot (Jodie) Sandhu, DNP, MSN, FNP-C, RN, PA-C, CNL
Chair

Dr. Jo Loomis, DNP, FNP-C, CHSE, NCMP, CNL
Committee Member
Acknowledgements

My DNP journey has been a long, twisting, and winding road, full of many ups and down, several curveballs, and has served as a significant period of growth personally, professionally, and academically.

I’d like to express my sincerest gratitude to Dr. Jodie Sandhu for being a huge part of my life these past five years. During this very long, five years I developed a relationship with Jodie. She never treated me like she was above me or made feel like I was on my own. She took me under her wing, pushed me to my fullest potential, and held me to the highest standards. Through this, I was able to complete a DNP goal of mine, which was to become a published author! She shared with me her breadth of knowledge in the primary care setting, but also, some important life skills along the way. I owe a tremendous amount of my success in this program from Jodie’s mentorship and I hope she knows how truly valuable her presence has been to me.

I’d also like to acknowledge and thank Dr. Jo Loomis for her support, instruction, and membership as a committee member for my project. She has a passion for women’s health and promoting healthy pregnancies that is very transparent when she speaks. I have so much respect for her work ethic and her dedication to improving the USF DNP program.

I must acknowledge the huge role and sacrifices my family made in order for me to be successful in this goal. Nathan, my husband, love of my life, as you said, this success is a shared one! We did this together and this experience has definitely strengthened us. To my mother, thanks for your continued support and always believing in me. To my sister, thanks for being proud of me and cheering me along when I got discouraged. Finally, to this sweet baby girl who has not yet joined us, thank you for giving your mother the strength to keep going. You’ve been a big motivator to your mama and I look forward to us both walking across the stage in May.
Abstract

**Problem:** Unintended pregnancy is a serious public health concern. About half of all pregnancies in the United States are unintended (Guttmacher Institute, 2016). This project lead by a Doctor of Nursing Practice (DNP) student at the University of San Francisco, will showcase the development, implementation, and evaluation of a LARC training program aimed at improving confidence in counseling, competence in insertion, and evaluation increased rates of LARC usage in primary care, directed at reducing unintended pregnancy rates. This program expands upon the Healthy People 2020 goals dedicated to family planning and emphasis on increased utilization of the most effective forms of contraception available (U.S. Department of Health and Human Services [HHS], 2017). **Methods:** In an effort to reduce barriers to LARC in the primary care setting and augment reproductive training standards at the academic level, an in-person four-hour training session was created to deliver hands-on LARC insertion practice with uterine simulators along with didactic training addressing common myths/misconceptions about LARC, and a practice toolkit for students to use in future contraceptive counseling sessions. **Results:** A total of 31 FNP providers participated in the LARC hands-on workshop. Data analysis demonstrated over 90% of participants increased their confidence in LARC insertion 32% showed increased knowledge about LARC in general as well as increased confidence in selecting LARC eligible candidates following this intervention. After four weeks, 16% of participants successfully inserted an IUD device. **Conclusion:** Overall, hands-on training is an evidence-based, cost effective way to promote competence at the academic and practice level to assist providers with LARC promotion, contraceptive counseling, and decreasing the unintended pregnancy rate.

**Keywords:** Unintended pregnancy, LARC, hands on training, contraceptive counseling
## Table of contents

**Section I-Title and Abstract**

- Acknowledgements ................................................................. 2
- Abstract .................................................................................. 3
- Table of Contents .................................................................... 4

**Section II- Introduction**

- Problem Description .............................................................. 5
- Available Knowledge .............................................................. 8
  - Review of the Literature ......................................................... 8
    - Deficits in provider education/competency .......................... 8
    - Effects of hands-on training ................................................. 11
    - Practice Barriers ............................................................... 14
- Rationale .................................................................................. 16
  - Conceptual/Theoretical Framework ....................................... 16
- Specific Aims .......................................................................... 20
- AIM Statement ....................................................................... 21

**Section III- Methods**

- Ethical Considerations .......................................................... 22
- Context .................................................................................. 23
- Interventions ......................................................................... 24
- Communication Matrix .......................................................... 24
- Gap Analysis .......................................................................... 25
- GANNT chart ......................................................................... 26
INCREASING LONG ACTING REVERSIBLE CONTRACEPTION IN

SWOT ........................................................................................................................................27
Proposed Budget ....................................................................................................................27
ROI ..........................................................................................................................................29
Analysis ...................................................................................................................................30

Section VI-Results
Survey .......................................................................................................................................32
Additional feedback ................................................................................................................33
Four week post survey ...........................................................................................................33
LARC representative feedback ............................................................................................34
Debriefing/Anecdotal ............................................................................................................34

Section V-Discussion
Summary .....................................................................................................................................35
Interpretation ..........................................................................................................................35
Limitations .............................................................................................................................36
Conclusion ...............................................................................................................................37

Section IV-Other Information
Funding .....................................................................................................................................37

Section VII References

Section VIII-Appendices
Appendix A: Evidence Table .................................................................................................45
Appendix B: Letter of Support from USF .............................................................................52
Appendix C: Statement of Determination ............................................................................53
Appendix D: Work Breakdown Structure ...........................................................................56
Sections II: Introduction

Problem Description

The average American woman spends nearly 75% of her childbearing years trying to avoid pregnancy (Guttmacher Institute, 2016). A recent study found that about 45% of all pregnancies in the United States are unintended and all women regardless of race, age, education level, or income can be affected by unintended pregnancy (Guttmacher Institute, 2016). Unintended pregnancies carry consequences for both mother and child long term, including but not limited to, negative social, financial, and personal implications. It is projected that about half of all unintended pregnancies are related to inconsistent or incorrect use of contraceptives, resulting in contraceptive failure (Polis et al., 2016; Winner et al., 2012). The mainstay of prevention for unintended pregnancy in primary care rests in exercising interventions that promote effective and consistent use of contraceptive methods. Reproductive health delivery is an integral part of the primary care provider’s role, which includes routine family planning assessment with appropriate contraceptive education and counseling.

In the United States, the oral contraceptive pill is the most commonly used form of reversible contraception (Centers for Disease Control and Prevention [CDC], 2016). Short acting contraceptives such as the pill, condom, diaphragm, patch, ring and sponge require daily use, and the depot medoxyprogesterone acetate injection requires recurrent office visits, all subject to adherence by the user. These methods have failure rates between 6%-24% (Association of Reproductive Health Professionals, 2014), and higher failure rates can be seen in teenagers and high-risk subgroups (lower education level, black women, lower socioeconomic level, and previous unintended pregnancy), where inconsistent or incorrect use is commonly the cause of contraceptive failure (Polis et al., 2016; Winner et al., 2012). Long-acting reversible
contraception (LARC), such as the intrauterine device (IUD) and the hormonal implant, are the two most effective forms of contraception available, with failure rates less than 1% (Polis et al., 2016; Winner et al., 2012). LARC is endorsed by many major health organizations as a first line contraception option for women of child-bearing age and adolescents (Phillips, & Sandhu, 2018). LARC is 20 times more effective than oral contraception and can be safely and effectively used in women of all ages (The American College of Obstetricians and Gynecologists [ACOG], 2014). Its safety, cost effectiveness, lack of daily adherence issues, and reliability as a reversible method, has the highest satisfaction and continuation rates (Luchowski et al., 2014). Despite these recommendations, LARC remains highly underutilized in the United States, with about 12 percent of women using this method (Guttmacher, 2015).

The underutilization of LARC is a complex and multifaceted issue; patient, system, and provider barriers exist. While the upfront cost of a LARC device was largely removed with the passing of the Affordable Care Act (ACA) (Kaiser Family Foundation, 2014), the provision of LARC remains stagnated given two significant barriers. Primary care clinics (where many women receive contraception) have reduced readiness for onsite implementation for LARC services, and the number of adequately trained primary care providers on insertion and removal of LARC, remains insufficient to meet the demands of improved access through primary care (Phillips, & Sandhu, 2018). Additional factors such as misinformation regarding LARC, low provider knowledge, lack of widespread training models, and poorly rated provider self-competency contribute to low levels of LARC usage and remain prevalent (Harper et al., 2013). Finally, across the United States, there are no standardized training requirements for LARC in education curriculums (Auerbach et al., 2012; Greenberg, Makino, & Coles, 2013). Although
most obstetricians and gynecologists receive training on LARC; this specific skill set is uncommon among general practitioners (Pace et al., 2016).

Currently, at least 89% of certified NPs serve as primary care providers (American Association of Nurse Practitioners [AANP], 2017). Preconception counseling as well as sexual and reproductive health services are essential components of care given at the primary care level, and many nurse practitioner students (NP) students, may be receiving inadequate training and education surrounding the use of LARC. Auerbach et al. (2012) found that NP students experienced at best 1-2 days in family planning clinics working with LARC-related skills, and actual instruction time with contraception and contraceptive methods was less than three hours for the duration of advanced practice training. Sexual and reproductive health are not classified within NP programs with clearly recognizable competencies or objectives (Auerbach et al., 2012; National Organization of Nurse Practitioner Faculties [NONPF], 2017), and in non- women’s health training programs such as advanced practice nursing programs, training with LARC is not specifically emphasized (Greenberg et al., 2013). Male and female reproductive health is identified by NONPF (2017) as a curriculum content area to support the “independent practice” competency, but the actual requirement for training and hands-on experience is not defined, possibly leaving content, training, and core competency mastery open for interpretation to individual educational institutions. This poses an issue in standardization of competency levels for graduating NPs (Phillips, & Sandhu, 2018).

Access to highly effective and reliable methods of contraception is key to reducing the unintended pregnancy rate. The presence of trained, competent LARC providers at the primary care level is paramount to the administration of such methods.
Available Knowledge

A comprehensive literature search was completed from June to July 2017, using the following databases: Cochrane Library of Systematic Reviews, CINAHL, PubMed, AHRQ Evidence Reports, MedlinePlus, and the Joanna Briggs Institute. Key words and free-text terms were entered into the databases in various combinations. The search terms used included the following: *long-acting reversible contraception, LARC, IUD, intrauterine system (IUS), IUD, IUS, hormonal implant, reversible contraception, reversible birth control, provider disclosure, provider training, nurse practitioner training, and knowledge*. The studies were limited to English-only articles, those conducted in the United States (to be most applicable), and published between 2012 and 2017 (for the most up to date literature). In addition, grey literature was searched, including Google Scholar, the CDC, the National Institute of Health, and the American College of Obstetricians and Gynecologists websites, and key secondary references listed in extracted publications were reviewed. A total of 48 published articles were discovered. Final articles were chosen only if they were peer reviewed, and measured provider knowledge, training, and education regarding LARC methods. Duplicates were eliminated and a final culmination of 25 articles were examined for evidence. A total of 14 articles met the inclusion criteria (Appendix A). The selected articles were evaluated for strength of research design using the Johns Hopkins Nursing Evidence Based Practice Research Evidence Appraisal tool (Newhouse, Dearholt, Poe, Pugh, & White, 2007).

Review of Literature

**Deficits in formal provider education/competency.** Without strict regulations and standards about the specific training recommendations that should be included in all health care provider education surrounding contraception, considerable variance exists around the delivery
of this material between differing academic organizations. Furthermore, potential influences including availability of continuing education, educational delivery models, and the number of years a clinician has practiced affect LARC rates. The literature below demonstrates how deficits in formal provider education and competency can affect LARC provision.

Luchowski et al. (2014) examined LARC practices, beliefs, knowledge, and training, particularly among obstetrician-gynecologists. A survey of over 1200 fellows from ACOG (American College of Obstetricians and Gynecologists) found that more than 95% of participants provided IUDs consistently and on a regular basis. Of those participants, 92% received training on IUDs during residency, however, only 50% reported receiving training on hormonal implants. About 60% of respondents had completed continuing education within the last two years on at least one LARC method. Lack of insertion training on hormonal implants was reported by 31% of respondents as a significant barrier to its increased utilization (Luchowski et al., 2014). The completion of a recent continuing education program was strongly linked to increased hormonal implant insertion, knowledge of LARC, and other practices that encourage LARC.

Philliber et al. (2014) studied how the length of licensure might affect providers’ beliefs, attitudes, and practices regarding LARC, and the scope to which providers held consistent and accurate information about LARC. A survey of 114 providers, including physicians, physician assistants, NPs, and midwives, revealed that most seasoned providers were less likely to be trained in LARC insertion, however, were more likely to be comfortable with insertion practices of LARC (Philliber et al., 2014). Newly practicing clinicians were less likely to identify appropriate candidates or understand criteria surrounding LARC eligibility for devices such as the single rod implant. While more experienced clinicians were more comfortable with insertion techniques, they were less likely to correctly recognize subgroups of women meeting LARC
eligibility per recommendations of guiding agencies (Philliber et al., 2014). These results provide reasonable evidence that strengthening continuing education for experienced clinicians on LARC methods is warranted. Additionally, irrespective of years of practice, insertion training during clinical instruction is necessary to promote LARC use.

Kavanaugh et al. (2013) explored possible barriers to the provision of LARC at family planning facilities’ and LARC accessibility for teens and young adults. From a national database provided through Guttmacher Institute, the study examined 1,196 family planning facilities and across the United States. Data obtained from the questionnaire included information about the facility, client caseload, and the different types of contraceptives offered to the patient population. The highest facility response rate was by Planned Parenthood at 80% and the overall response rate was about 52% (Kavanaugh et al., 2013). Only 56% of the facilities “often” or “always” discussed IUDs with young women and even fewer facilities discussed hormonal implants “often” or “always,” at 40% of respondents. The survey also revealed that 50% of respondents identified two common barriers to the provision of LARC within the adolescent population: a) the provider’s personal concerns regarding IUD use within this population and b) inadequate training and competence with insertion of LARC methods (Kavanaugh et al., 2013).

Collier, Rosenthal, Harris, Lucas, and Stanwood (2014) examined provider implant practices and knowledge of LARC in two federally qualified health centers (FQHC) in New Haven, Connecticut. Surveys to 90 providers, primarily serving low income women, demonstrated that only about half of all women’s health providers were trained to insert hormonal implants. Of adult primary care providers surveyed, only 15% had received formal training on hormonal implants during their academic training and only 20% regularly discussed this LARC method as a contraceptive option during contraceptive counseling with their clients.
increasing long acting reversible contraception in

(Cholli er et al., 2014). An incidental finding of this study revealed that these two FQHCs had a
long wait time for LARC insertions when compared to other methods: possibly up to three
weeks, secondary to needing an external referral for insertion (Collier et al., 2014). This finding
further validates the lack of training and comfort with LARC methods, as a significant barrier to
utilization of LARC. Restrictive practice patterns and insufficient provider training may impact
contraceptive implant use among women who are potentially at high-risk for unintended
pregnancy, such as low-income women (Collier et al., 2014). Pre-licensure formal education and
training as well as continued education for more seasoned providers can address these barriers to
LARC provision.

Biggs, Harper, Malvin, and Brindis (2014) aimed to study LARC provision in California.
Providers participating in California’s family Medicaid program, where the medical costs
associated with LARC are covered, received a survey regarding their LARC beliefs and practices
(Biggs et al., 2014). A total of 587 participants comprising physicians, NPs, physician assistants,
certified nurse midwives took part. Twenty-six percent of respondents of the survey
demonstrated knowledge deficits in identification of appropriate candidates for LARC methods.
Many clinicians reported mistakenly eliminating women with a history of pelvic inflammatory
disease, nulliparous women, teenagers, and women with history of ectopic pregnancy as illegible
for an IUD. These results suggest a significant need for continuing education on LARC methods
and additional educational methods on the latest practice guidelines, as demonstrated by lack of
knowledge regarding utilization criteria for LARC.

**Effects of hands-on training.** When advanced practice providers do not have LARC
training and insertion practice as a clinical competency component in the academic setting, this
skillset will need to be obtained in the field. Several studies (Harper et al., 2015; Lewis, Darney,
INCREASING LONG ACTING REVERSIBLE CONTRACEPTION IN 14

& Thiel de Bocanegra, 2013; Gibbs et al., 2016; Murphy, Stoffel, Nolan, & Haider, 2016) have investigated the effects of hands on training for clinicians who either did not receive enough practice and training with LARC to feel confident with their skillset or received no formal training in the academic setting. Inadequate hands on training or no training at all resulted in decreased utilization of LARC by women who receive from these clinicians. Regardless if hands-on training is experienced at an academic level or during formal practice, this intervention is advantageous to increasing provision of LARC.

Faculty at the University of California, San Francisco (UCSF) conducted a cluster-randomized trial geared to reduce pregnancy rates across the United States by increasing LARC use (Harper et al., 2015). An evidenced based training intervention for nurse practitioners in several reproductive health clinics was implemented with the purpose of increasing access to LARC within the community. A total of 40 reproductive health clinics participated in the intervention; with 20 clinics randomly assigned the intervention of LARC insertion training and counseling, and a control group of 20 clinics received no training or counseling on LARC insertion. These reproductive health sites provided both family planning and abortion services. Through the course of the study, LARC cost stayed the same. Results of the study revealed higher rates of contraceptive counseling on LARC methods among the intervention group, 74% versus 39% in the control group, and higher selection rates for LARC in women counseled by the intervention group, then the control group, 28% and 17%, respectively (Harper et al., 2015). Other outcomes of the study included a lowered pregnancy rate in the control group, 7.9 versus 15.4 per 100 person years (Harper et al., 2015).

Further research, conducted at UCSF, studied the influence of provider training on IUD utilization rates (Lewis, Darney, & Thiel de Bocanegra, 2013). The Family Planning, Access,
Care and Treatment (FPACT) program serves nearly 1.4 million women a year and is the largest family planning program in the United States for recipients of Medicaid (Lewis et al, 2013). Through this research, the state of California offered 249 clinicians participating in the FPACT program 10 training sessions aimed to provide skills and education required for effective and competent IUD insertion. Prior to this training, 61% of participants endorsed no formal training on LARC insertion during residency and 75% endorsed personal discomfort with insertion techniques of LARC devices. Participant knowledge was assessed via survey, both pre and post training. Provider knowledge and understanding of appropriate candidate for IUDs increased from 58% to 81%, following training. Data also reflected an increased number of IUD insertions by 64% versus 15% in nonparticipating sites (Lewis et al., 2013).

Gibbs et al. (2016) focused on the impact of LARC insertion training for providers working with the adolescent population. In 40 Planned Parenthood health centers across the United States, providers received a half-day training seminar that included updated best practice guidelines, hands-on training with IUD and hormonal implants, and case study role play. Adolescents who received care at sites that participated in the intervention, were three times more likely to have a discussion regarding LARC methods and twice as likely to select a LARC method. This study reinforces the importance of hands-on training and education for providers to accurately identify adolescents as eligible candidates for LARC (Gibbs et al., 2016). Historically, recommendations and guidelines for LARC usage among adolescents has been unclear, leading to misconceptions and utilization of overly restrictive criteria for young women who are suitable candidates for LARC. The AAP recommends providers disclose the most effective forms of contraceptive to adolescents and endorses LARC as a first-line contraceptive option for adolescents (AAP, 2014b).
Murphy, Stoffel, Nolan, and Haider (2016) examined explicit barriers to LARC provision in adolescents by advanced practice nurses, pediatricians, and family medicine doctors. Barriers investigated were: a) clinician confidence in LARC, b) availability of financial and hands-on support for LARC, and c) patient-specific counseling on LARC. The demonstrated barriers to LARC implementation included lack of provider training and poor access to LARC devices. Providers endorsed that they were less likely to counsel an adolescent on LARC methods if they were unfamiliar with LARC, or if they couldn’t resolve an adolescent’s uncertainty regarding LARC. Many providers surveyed revealed confusion over eligibility criteria for LARC and even credited the uncertainty to outdated information. All the providers indicated that further training and sufficient opportunity for LARC insertion practice, was necessary and would contribute to increased rates of LARC utilization.

**Practice Barriers.** Many practice-related barriers effect the provision of LARC. Potential setting characteristics that create barriers influencing LARC provision include: practice setting or type of health care center (Jacobson et al., 2016), variety of providers present in practice setting, that is, family medicine, internal medicine, or women’s health practitioners (Murphy et al., 2016), location such as urban or rural setting (Jacobson et al., 2016), and the number of visits required by a facility for LARC insertion (Kelly, Cheng, Carlson, & Witt, 2017).

Greenberg et al. (2013) studied practice and provider barriers linked to the provision of LARC within the adolescent population. Over 900 members of the Society of Adolescent Health and Medicine were surveyed. Thirty percent of the sample provided some type of LARC service. Exposure to LARC training was the strongest predictor for LARC provision. Office sites including more women’s health and family medicine providers were more likely to offer LARC.
than practices who had more internal medicine providers. Practices where more trained residents were present, were more likely to provide the adolescent population with LARC services for both IUDs and hormonal implants (Greenberg et al., 2013).

Researchers in New York City investigated the influence of practice-level barriers on the provision of LARC (Jacobson et al., 2016). While traditionally primary care providers have not viewed at sexual and reproductive health care providers, they play an integral role in addressing contraceptive needs. In review of 253 primary care practices, Jacobson et al. (2016) found substantial differences in LARC practices between independent primary care practices and community health centers. Through evaluation of the electronic health record, in independent primary care practices, it was revealed that less than 10% of internal medicine and pediatric providers had inserted an IUD each year (Jacobson et al., 2016). Furthermore, community health centers were more likely to provide IUD insertions than independent practices. Primary care providers and independent practices serve many different patient populations and most likely will address contraceptive needs; therefore, proper training, education, and access to LARC resources is necessary.

Gilmore et al. (2015) investigated key facilitators and barriers to the provision of LARC in school-based health centers (SBHCs). Researchers found that most clinicians conveyed concerns with the insertion and removal technique for LARC methods and fear of harming a patient, due to lack of training. Adverse viewpoints about LARC methods were held by school-based health care providers. Parents, teachers, and clinic managers were misinformed regarding the safety and effectiveness of LARC, and were unclear on the appropriate eligibility of LARC candidates. Within SBHCs, management of LARC is individually determined by onsite facilitators of these programs. In order to improve safe and effective utilization of LARC in
adolescents, training these providers in this type of practice setting could be standardized. Hands-on training, including experience with LARC insertion for nurse practitioners should impact the provision of LARC services in a SBHC.

Smith, Harney, Singh, and Hurwitz (2017) examined how provider specialty and clinic factors influence LARC provision, specifically in a large Massachusetts health system, with the adolescent population. Within this health system, LARC methods were readily accessible and multiple provider types were present. Authors analyzed data from electronic health records of over 5,000 women aged 15-21 years. The results revealed a statistically significant association between providers who were in training or newly practicing, and the provision of LARC to adolescents (Smith et al., 2017). Practice settings utilizing newly trained providers might potentially be benefitting from increased LARC use in adolescents versus established providers, indicating a need for more robust training models for matured practitioners.

Through a cross-sectional survey of 390 providers, Kelly, Cheng, and Carlson (2017) investigated nurse practitioners and nurse midwives opinions and practices surrounding LARC use. The results demonstrated that 84% used LARC, but only 16% were inserting more LARC than in the previous 5 years (Kelly et al., 2017). The survey revealed longer wait times for LARC which resulted in decreased utilization rates. Having the opportunity to receive a LARC in one visit was the biggest predictor of LARC placement (Kelly et al., 2017). Most APRNs participating in the survey had completed continuing education on LARC within the past two years. These results authenticate that recent training for providers impacts LARC utilization rates positively (Kelly, et al., 2017), providing additional support for benefit of clinical practice training, even in the absence of academic institutional instruction and opportunities for learning.
Rationale

Conceptual or Theoretical Framework

The Health Belief Model (HBM) is a cognitive theory whose conceptual framework approaches health behavior as a decision-making process (Champion & Skinner, 2008). Its adaptability and prevention orientation makes the model applicable and useful in the context of complex behaviors such as the utilization of contraceptives (Hall, 2011). In the circumstances of family planning and use of LARC, the HBM is helpful in developing strategies to prevent unintended pregnancy, stressing modifiable factors, and implementing interventions that target a woman’s motivation of preventing an unintended pregnancy, as well as a provider prescribing LARC. The HBM contains several concepts that foretell why a population takes action to prevent certain health conditions and the interactions between those concepts as well as modifying factors result in individual behaviors (Champion et al., 2008).

There are six constructs of the HBM which are based on perceived beliefs of a certain health condition and include the following: susceptibility, severity, benefits, barriers, cues to action, and self-efficacy (Champion et al., 2008). When applied to family planning and the utilization of LARCs for the prevention of an unintended pregnancy, a woman must perceive and believe that there is a possibility of her getting pregnant (Brown, Ottney, & Nguyen, 2011). Discussing and sharing the statistics with the targeted population that about half of all pregnancies are unintended and that women ages 18-29 are at greatest risk can increase awareness of susceptibility. A woman must next understand the severity of an unintended pregnancy such as social, emotional, and financial consequences (Brown et al., 2011). A health care provider explaining the risks associated with unintended pregnancy and long-term
outcomes for both the woman and child would inform the target population of the severity of unintended pregnancies.

Next, a woman must believe that the benefits of LARC (Brown et al., 2011), i.e. LARCs is one of the most effective forms of contraception, they are safe, once in place, a woman does not have to do anything else to prevent pregnancy (ACOG, 2014), menstrual suppression, LARC us easy to use (Brown et al., 2011), covered by most insurance companies (Guttmacher, 2013), completely reversible (ACOG, 2014), and no one can tell that she is using birth control, outweigh the costs or barriers. Perceived barriers to the utilization of LARC are the potential negative aspects associated with its use and could include misinformation about LARC, cost, fear of side effects, failure and ability to conceive in the future (Brown et al., 2011).

The cues to action include patient activity pursuing guidance from partners, family, friends, and health care providers in regard to contraception (Brown et al., 2011). Here health care providers play a huge role in the promotion of LARC. Provider counseling and media can portray LARC in a positive light (Garbers, Chiasson, Baum, Tobier, Ventura, & Hirshfield, 2015) and cue women to utilize them by highlighting them as best practice. Finally, a woman must perceive that she is competent (self-efficacious) to overcome barriers to prevent unintended pregnancy and utilize LARCs. In this construct, the health care provider as well as a peer that is similar in demographics to the woman (Garbers et al., 2015) can be influential in increasing the woman’s self-efficacy. Another interesting approach could be framing the utilization of LARC as empowerment for the prevention of unintended pregnancy thus making life goals such as college diploma attainment and career advancement appear more than a possibility and more of a reality.
An additional theoretical framework that applies to increasing insertion rates of LARC by providers is Patricia Benner’s *From Novice to Expert*. Her model focuses on the stages of professional development and growth that nurses pass through during their careers. Her theory also emphasizes expert nurses have acquired information through time and experience by applying educational background and knowledge to real life scenarios. Dr. Benner’s theory contains five stages of clinical competence: novice, advanced beginner, competent, proficient, and expert (Benner, P.E., 1984). Many newly graduated advanced practice providers would fall into novice or advanced beginner stages, given the likelihood they have some limited knowledge of LARC or have knowledge of LARC but lack clinical application and experience. More seasoned providers would remain in the novice or advanced beginner stages if they did not receive additional training or continuing education surrounding LARC.

Through this DNP project, providers would receive training that would help transition them to the later stages of Benner’s theory. They would move from an advanced beginner, to competent and proficient. These advanced practice providers would acquire the skillset previously lacking, that had left them incompetent with LARC insertion techniques. They would also recognize appropriate candidates for LARC and approach family planning as “whole,” rather than just parts. For example, providers would provide comprehensive contraception counseling to their patients and be able to deliver a patient’s contraceptive choice, rather than eliminating certain options or providing a referral.

**Specific aims**

If the issue of underutilization of LARC is not addressed, it is projected that about half of all pregnancies will remain unintended and will strain public funds (Guttmacher, 2016). There are definite barriers in the current system that contribute to provider education and
recommendation of LARC. One barrier is that providers do not feel confident in their technique for insertion of these contraceptive options. This project combined hands-on training, contraceptive counseling, and a toolkit for participants of the seminar to feel more confident about LARC. Through this comprehensive training provided by the DNP student and the assistance of Bayer and CooperSurgical, the goal was to have providers become more competent in the insertion practice of LARC and understand the evidence behind its effectiveness, its role in preventing unintended pregnancy, and realize that LARC is a first line option for many adolescents and women. In light of the above evidence, intervention at the academic level is warranted to improve the provision of LARC and remove barriers within the primary care setting.

The financial implications of unintended pregnancy in California are disturbing. About 64% of unplanned births in California in 2010 were paid for by public funds (Guttmacher Institute, 2017). More importantly, by preventing unintended pregnancies and poor reproductive health outcomes, family planning clinics in California saved $1790.4 million for the United States government in 2010 (Guttmacher Institute, 2015). While a LARC costs between $700-$1,000, an unplanned pregnancy for a woman on Medicaid costs the taxpayer $13,000 per year (Guttmacher Institute, 2014).

The aim of this project was to provide an evidenced based, hands-on training seminar for future FNP/DNP students and current providers in the San Francisco Bay area to address the competent practice level barrier that surrounds LARC provision for providers.

**Aim Statement**

By May 1, 2019, this project will develop, implement, and evaluate a LARC training workshop at the University of San Francisco School of Nursing and Health Professions geared
INCREASING LONG ACTING REVERSIBLE CONTRACEPTION IN

Section III-Methods

Ethical Considerations

The ethical guiding principles of beneficence, reproductive justice, and equitable treatment are the basis for this DNP project. Providers have an ethical obligation to provide comprehensive reproductive health care services, that are free from bias. Reproductive health is a part of a woman’s well-being and should be addressed at the primary care level. All women are entitled to full education and counseling of their options for birth control, which includes teens and young adult women. The American Academy of Pediatrics endorses provider discussion of sexual and reproductive health with teens and adolescents (AAP, 2014). Given the long-term nature of relationships clinicians can develop, they are in a good position to promote healthy sexual decision-making, such as abstinence and contraceptive use.

In California, at any age, a woman is entitled to birth control, including emergency contraception, pregnancy testing and prenatal care, and abortion services (American Civil Liberties of California, 2019). In states like California where family planning is an entitlement, primary care providers are in a position to reduce the negative outcomes associated with unintended pregnancy. Reduced quality of life, socio-economic development, lower academic achievement, increased crime rates, health inequality, and increased public spending are all correlated with unintended pregnancy and impact not only the women and children involved, but the overall population as well (Guttmacher, 2016). Providers at the primary care level have a key role in controlling and reducing the harms of unintended pregnancy to the public health system,
patient, and child through comprehensive contraceptive counseling and utilization of the most effective forms of contraceptive available.

This DNP project was submitted to the committee for approval. The project and its materials were approved as an evidenced based change project and did not require the approval of the Institutional Review Board (Appendix C). No identifying information was obtained from participants of the seminar.

**Context**

**Setting**

The University of San Francisco (USF) is a private, Jesuit organization whose mission includes providing opportunities for students to improve the world around them. By incorporating hands-on training at the academic level, this DNP project offered a seminar at USF’s school of nursing to address a well-known barrier to the provision of LARC: lack of provider training. The NP program at USF is focused in primary care; training students to become family nurse practitioners. There are two application cycles that offer entry into the program in either Spring or Fall and each cohort typically consists of 25 students. Depending on previous degree attainment, the program can typically be completed in three years. At the time of this project, LARC training was not embedded as a core objective with the NP program standard clinical training curriculum. In non-specialty/ nonobstetric training programs such as advanced practice nursing programs, LARC training is not particularly a required component of graduation requirements (Greenberg et al., 2013). According to Phillips & Sandhu (2018):

Male and female reproductive health is identified by NONPF (2017) as a curriculum content area to support the “independent practice” competency, but the actual
requirement for training and hands-on experience is not defined, possibly leaving content, training, and core-competency mastery open to individual educational institutions.

A project proposal for the LARC workshop was initiated by the author, materials were submitted to the University of San Francisco, School of Nursing and Health Professions for contact hours. The workshop was approved as an opportunity to model a new approach to LARC training in the curriculum at USF (Appendix B, support letter).

The stakeholders in this project proposal include the University, more explicitly the faculty and students of the School of Nursing and Health Professions (SONHP), the community partners and clinics hiring USF graduates, the Bayer and Cooper-surgical representatives, support staff, and any potential women impacted by having received evidenced based, barrier and bias free access to contraceptive counseling and LARC methods.

**Interventions**

This DNP candidate held the majority of the responsibility in planning, implementing, and facilitating key components of the project and intervention. A work breakdown structure was created to help plan, identify critical milestones, and implement this proposed project (Appendix D).

This DNP candidate worked closely with DNP committee advisors with clinical expertise in family planning and LARC methods, as well as individual LARC representatives with experience in executing successful training workshops. Communication methods to facilitate planning of the project included phone calls, emails, Zoom meetings and in-person meetings. Timing and frequency of exchanges varied depending on the stage of the project (Appendix E).

After careful evaluation of existing literature, counsel from DNP advisors, and consideration of barriers to LARC provision within the primary care setting, a gap was identified
within the current standard of training with LARC methods at USF. Before project implementation, there were three current practices within training identified as barriers to LARC provision, similar to those identified in existing literature: absence of hands-on training opportunities, FNP students feeling unprepared to provide comprehensive contraceptive counseling, and advanced practice providers lacking up to date guidelines and knowledge to identify LARC appropriate candidates. In order to fill this gap, this DNP project addressed these issues through a robust LARC training workshop to take place at USF which included hands-on training with vaginal simulators, a toolkit to have for future practice when discussing contraceptive options with patients, and methods for approaching contraceptive options through the shared decision-making model and the One Key Question approach (Appendix F). Prior to the seminar, participants were encouraged to complete the Bixby Center for Global and Reproductive Health’s module entitled, “An update on long-acting reversible contraception,” as a primer to the workshop (The Regents of the University of California, 2019). This training helped prepare the participants for the material that would be presented during the workshop. The module included the latest best practice guidelines, reviewed many of the common misconceptions surround LARC, and gave participants the opportunity to practice applying new knowledge through case studies.

The timeline of this project is illustrated in a GANTT chart (Appendix G). The GANTT chart identified project tasks, the responsible party, expected time and date completions in order to facilitate this author meeting critical deadlines for successful planning, implementation, and evaluation of the project. As each task was completed or changes occurred, the GANTT chart was updated to reflect current projections and needs for project completion. The project transpired through a 22 month time period, from June 2017 to April of 2019. The project began
in June of 2017 after discussions with the DNP chair regarding topic interest areas. Following publication of a systematic review and its approval as continuing education units, the focus for targeted trainings and intervention at the university was identified. The author confirmed the DNP committee in August of 2018. The creation of the deliverables, securing Bayer and Cooper/Surgical participation in the project, and implementation of this project to place from September 2018 to February 2019. Following implementation, surveys of participants in the training seminar were analyzed. The completion of this project with a final presentation to the author’s university and committee members took place in April of 2019.

**SWOT**

The author conducted an analysis of the strengths, weaknesses, opportunities, and threats of a LARC seminar DNP project at USF (appendix H). There were multiple strengths to the project. A critical strength of the project is that the author had full support of the stakeholders from the beginning. Additionally, with the support of Bayer and CooperSurgical, the training for participants was completed at a lower cost. An additional strength is that the project is founded in best practice recommendations from authoritative agencies (American College of Obstetricians and Gynecologists [ACOG], 2015). The project also allowed students to network with the LARC representatives and initiate similar training seminars at their respective clinical rotation sites. This exposure allows for further diffusion of LARC and improved access.

Despite the strengths, there are also weaknesses and threats to the project that need to be examined. One main weakness to the project is the author’s inability to control and require all FNP student participation in the project. The training and FNP student buy-in to LARC is required for success of the project. The author mitigated these weaknesses through support from the Dean of the School of Nursing and verbal and written affirmation of project goals by the
DNP committee who also serve as FNP faculty. Additionally, as an incentive to participate in the LARC seminar, students and advanced practice nurses will receive continuing education hours.

Other opportunities of the project include reduction of unintended pregnancy, improved outcomes for women participants in the project; i.e. satisfaction with birth control choice, having the ability to plan pregnancy effectively, and ability to delay pregnancy until later in life; increasing future provider knowledge about LARC. LARC is one of the most effective forms of birth control available; by increasing its utilization, women could have better success in planning pregnancies and the ability to pursue educational opportunities and stable employment.

Furthermore, by additional dissemination of this project to other areas in California, this best practice could further influence change across the United States. Finally, by targeting future FNPs who will likely work at the primary care level in federally qualified health centers, high risk populations would receive equitable and quality healthcare.

One of the main threats to the continued effectiveness of the project is the repeal of the Affordable Care Act. Provisions from the Affordable Care Act require that insurance companies cover a woman’s choice of contraception. With threat of appeal comes the possibility that this provision will no longer be a requirement and financial barriers may be an issue for many in need women. An additional threat to the continued success of the project was that the author will not be present in the setting following the completion of the project. Arranging and setup for such a workshop is something that takes time and energy, and with the regular load and burden on clinical faculty, a guaranteed method for delivering this type of training does not exist. It is a possibility for the author to hand off the project to another doctoral student who can continue it and update the guidelines/trainings as needed. Finally, the threat of patient coercion is addressed and considered. Ethically, advanced practice providers have a duty to provide evidence-based
practice, which includes respect to the patient’s autonomy and right to self-determination.

Special consideration to this subject was given during the training which highlighted that while providers should think LARC as first line, patient preference and needs always take precedence.

**Proposed Budget**

Overall, the cost of the project is estimated to be around $345 (Appendix I). This includes supplies for the training, time for the participants, and providing refreshments for the training seminar. Many of the costs of this project will be eliminated through in-kind contributions from Bayer and CooperSurgical makers of LARC devices and educators to lead the training sessions. Additionally, the majority of the traditional project management compensation is eliminated given the project lead is a student and time is donated freely.

**Return on Investment**

Unintended pregnancy causes significant financial burden to the United States healthcare system and women impacted by it. The return on investment for the project described above has both financial and ethical implications. It’s hard to define and measure the real cost of unintended pregnancy; however, the ROI is really cost avoidance, aversion of unintended pregnancies and negative reproductive health outcomes. A general rule of thumb is that for every dollar spent on publicly funded family planning, governments save $7.09 (Guttmacher Institute, 2016). The CDC is currently working on an initiative to reduce unintended pregnancy, based on four evidence based interventions (Association of State and Territorial Health Officials, 2017). These include: addressing inadequate reimbursement (of contraceptive counseling services and the device itself, expanding coverage, and eliminating barriers. It is estimated that if just 10% of women switch from short acting reversible contraceptives to a LARC device, total costs averted would be about $288 million (Sonefield, A., & Kost, K., 2015). From an ethical standpoint,
LARC is the most effective form of contraception, and therefore practitioners have an ethical obligation to provide this information to women as best practice.

There are two additional perspectives to examine return on investment for this project. One is from a recruitment standpoint of future advanced practice provider students, these types of hands on clinical educational experiences could be advertised as a method of attracting potential students to USF’s DNP/FNP program. Second, the skills acquired through the training seminar, i.e. contraceptive counseling, the insertion of LARC, and then follow-up care associated with LARC insertion, would be an opportunity to create revenue in organizations where these providers may seek employment; while simultaneously being cost effective. Most primary care providers accept a variety of healthcare plans. An advanced practice provider has several billable codes associated with family planning and LARC. Possible codes include: contraceptive counseling, encounter for contraceptive management, IUD insertion, and IUD device (Appendix J). Reimbursement rates for the device itself, insertion, and counseling vary depending on payer; however, potential patient benefit can range from $800 to $1000, making this a cost effective measure to implement in practice where appropriate.

Methods of Evaluation

In order to evaluate intended outcomes of this project, focus was placed on investigating a change in confidence and comfort with insertion techniques for IUD devices as well as participants’ ability to accurately identify LARC eligible candidates. Qualitative methods were utilized via a pre-engagement survey, post-engagement survey, a post-workshop program evaluation survey, and a four week follow-up change in practice survey. Pre and post engagement outcomes were evaluated based on the five questions in the pre/post survey: 1) how confident do you feel selecting LARC (long acting reversible contraception) eligible candidates,
2) how knowledgeable do you feel about LARC in general, 3) how ready do you feel to insert an IUD, 4) how confident do you feel inserting an IUD, and 5) do you feel hands-on training is an effective approach to learning IUD insertion (Appendix O). These five questions were graded on a 5-point Likert-type scale with possible answers as: extremely, quite, moderately, slightly, and not at all. Both surveys provided a comment section for additional feedback.

The post-workshop evaluation survey gave feedback on the content of the workshop, applicability to the FNP role, instructor’s knowledge, organization, and communication of material, length and level of workshop (introductory, intermediate, advanced), the quality of the power point presentation, handouts, hands-on training component, and the program overall. The last question asked for feedback on what participants enjoyed/thought/appreciated most about the workshop and any suggestions for improvements. The four week follow-up survey consisted of three questions: 1) have you had the opportunity to insert an IUD device since the workshop, 2) since the workshop, do you feel more prepared to insert an IUD device, and 3) has your knowledge increased in counseling patients surrounding LARC. An additional section provided an opportunity for comments (Appendix P).

**Analysis**

Survey data was evaluated using Excel data collection and analysis tools. The five confidence-based questions were graded on a Likert-type scale, with 1 being “not at all” and 5 being “extremely.” The mean response values were calculated for both pre and post survey to capture the central tendency of each survey item. The percent change (delta Δ) was then calculated to reflect the pre-post shift in mean response values and measure the impact of the intervention. Column charts displaying both pre and post survey mean responses were then created to support visualization of the captured data.
Section IV-Results

A total of 31 providers participated in the workshop. Participants included 28 FNP students and 3 FNP faculty members. Three of the thirty one participants had previous experience with IUD insertion. Twenty five out of the thirty one participants completed the four week follow up survey.

Survey

Analysis of the pre-post workshop survey data is displayed in Table 1.

<table>
<thead>
<tr>
<th>Survey</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Q5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Avg</td>
<td>2.516129</td>
<td>2.516129</td>
<td>1.741935</td>
<td>1.387097</td>
<td>4.741935</td>
</tr>
<tr>
<td>Post Avg</td>
<td>4.064516</td>
<td>4.096774</td>
<td>3.419355</td>
<td>3.387097</td>
<td>4.548387</td>
</tr>
</tbody>
</table>

Table 1

Both question 1 and 2 of the survey showed a 32% increase in mean score, 2.5 to 4.1, which demonstrates increased confidence in selecting LARC eligible candidates as well as knowledge about LARC in general, from ‘not at all’ to ‘quite’ and ‘extremely.’ Question 3, inquiring how ready each participant felt to insert an IUD showed a 33% increase in mean score, 1.74 to 3.4, demonstrating improved readiness from ‘not at all’ to ‘quite.’ Question number 4 showed the greatest change pre to post survey. Participants were asked how confident they felt inserting an IUD and from pre intervention to post, the mean increased from 1.39 to 3.4, or 40% increase indicating improved confidence levels from ‘moderately’ to ‘quite.’ Question five, whether or not participants felt hands-on training was an effective approach to learning IUD insertion, showed a 4% decrease, 4.74 to 4.55, pre to post survey.

The post workshop data evaluation revealed 83% of participants “strongly agree,” that the workshop was applicable to their job/future FNP role. The additional 17% rated this question as a ‘2’ on a 5 point scale; ‘1’ being equivalent to strongly agree and ‘5’ to strongly disagree. Over 50% of participants “strongly agree,” that following the workshop they felt more confident
with insertion techniques of an IUD, and an additional 43% of participants rated improved confidence levels at a ‘2’. The hands-on training component of the workshop received a mean score of 1.43, with ‘1’ equivalent to an excellent rating and ‘2’ equivalent to a very good score. The toolkit each participant received for use in contraceptive counseling also received a mean score of 1.43. The program overall received a mean score of 1.4.

Additional Feedback

In the pre-intervention survey, the comments revealed an excitement for providers to attend the workshop. Four comments including, “I think this is a great topic and learning session for NP students,” “I love contraception,” “Excited for this clinical simulation experience,” and “I had a workshop about IUDs before that was supposed to be ‘hands-on’ and I didn’t get much out of it, so I’m hoping this is better,” were recorded. Seven surveys post-intervention provided comments. Themes extracted include: great/excellent workshop, hands-on training is effective for learning IUD insertion, and curriculum integration into future cohorts. One survey respondent expressed, “Hands-on training models are helpful, however, I would score quite or extremely after successful insertion on a real woman,” preferring an actual patient experience. Twenty two (73%) evaluations provided positive commentary about what was most appreciated/enjoyed/thought was best about the course. Common themes which emerged included: hands-on training, toolkit, conversation starters, and the importance of continuing this project for future cohorts. The remaining evaluations left no commentary.

Four week post survey

Twenty five out of thirty one (81%) participants completed the four week follow-up survey. Four out of 25 (16%) respondents reported successfully inserting an IUD since the workshop. Twelve out of 25 (12%) respondents reported feeling “quite a bit,” more prepared to
inert an IUD. Twenty out of twenty five (80%) respondents reported increasing knowledge in counseling patients surround LARC. Respondents were also given the opportunity to provide commentary. One respondent endorsed, “Because of this workshop training, it gave me confidence in my practicum with my first insertion of IUD experience. I highly recommend this workshop”.

**LARC trainer feedback**

Two LARC representatives participated in this project; one from Bayer and one from CooperSurgical. Each representative was given a survey asking about their overall experience participating in a training project at USF. Feedback from the trainers was positive. One representative indicated, “I truly enjoyed watching the students learn how to insert Paragard. As a vendor, it’s always very rewarding to teach and instruct on the correct way to insert. Breaking bad habits before they begin is crucial.” The other representative indicated, “I think having the students rotating was an effective method of handling the material. I enjoy interacting with the students one on one, which is sometimes a challenge in one large group.” Many times in workshop settings, there is limited space, time, and all of the participants must be trained all at once. By creating a program that divided the participants into three groups and divided the material presented at each station, more time is allotted for hands-on training and practice with different devices.

**Debriefing/Anecdotal**

During the post workshop debriefing, participants were given the opportunity to provide feedback and reflection on the value of such a training experience at the academic level. The anecdotal feedback was overwhelmingly positive; many students reporting, “This opportunity should be integrated into the curriculum so that every cohort has the experience of the skills and
knowledge this type of workshop provides.” One participant, a faculty member of the university and a community provider verbalized, “I’ve actually attended other LARC trainings, where I paid $600 out of pocket and those trainings were not anywhere near the caliber of the one I just attended here at the University.”

**Section V-Discussion**

**Summary**

While there was some variance amongst the surveyed participants, overall, results indicate that integration of hands-on training at the academic level does increase confidence levels in inserting IUDs. Furthermore, participants felt more equipped to discuss LARC options, identify LARC eligible candidates, and to provide comprehensive contraceptive counseling. Many participants provided additional feedback that this type of training should be incorporated as part of the standard curriculum and across NP programs. Moreover, 100% of participants rated the content of this workshop as applicable or important to their role as an FNP. Finally, 83% of participants increased their confidence and competence with IUD insertions.

**Interpretation**

The anticipated outcomes of this project were that hands-on training would increase confidence levels with inserting IUD devices and participants would feel more prepared to provide comprehensive contraceptive counseling to clients. Results of this project mirror similar findings of LARC training studies demonstrating benefits of hands-on training for confidence and competency in insertion and usability of LARC. There were two very valuables findings of this project. First, 100% of participants found the content (LARC insertion and comprehensive contraceptive counseling) to be applicable or important to their role as an FNP. It can be inferred from this result that these participants recognize that sexual and reproductive health is an
essential part of the FNP role, this content should be integrated into the curriculum at the academic level, and that family planning can and should take place at the primary care level. Second, 16% of participants were able to insert an IUD device following training with this workshop. It can be inferred, that hands-on training helped promote the use of LARC and that these participants may have not utilized this skill had they not attended this training opportunity.

**Limitations**

There were some limitations to this project. The Nexplanon device was not included as part of the training for this workshop, while it is also considered a LARC device. This was done intentionally, given that the training is in depth and is not easy to obtain at the educational level. Training with this device requires extensive and continual experience to maintain the skills necessary for utilization. Nexplanon personnel prefer that a practitioner inserts a device within the first few months after the training in order to uphold the skill level of the Nexplanon product. There was a slight decrease in mean from pre to post survey regarding hands-on training as an effective form of instruction for IUD devices. The mean score decreased from 4.74 to 4.55. Those who rated this question lower, typically provided commentary that live model insertion would be more effective. This data reveals that some participants would prefer and rate more highly, a live (simulated) training using standardized patients. This area of opportunity exists and may be feasible in some academic institutions, but likely is not a possibility for all training models.

An additional limitation of this project was the inability for participants to see patients who needs IUDs immediately after the training. This likely affected insertion rates. Given that students and providers are at different settings for clinical rotations or employment, they may not have been given the opportunity to utilize this skill. Finally, there was minimal representation of
“experienced” community providers. The workshop was offered to USF FNP students and any community NP providers in the San Francisco Bay area. Unfortunately, there were only three providers who participated in the training. Given the limited participation of community providers and lack of feedback to relay the success of this training model, this workshop could not be applied as a community training model.

Conclusion

LARC is the most effective form of pregnancy prevention beyond abstinence, yet remains highly underutilized in the United States (Harper et al., 2015). The above evidence illustrates the necessity of increasing provider training and public awareness of LARC methods and its indications, and the barriers and facilitators for the provision of LARC within the community. By increasing provider training and knowledge about LARC, increasing provider disclosure of LARC to appropriate candidates, and removing common barriers to the provision of LARC, unintended pregnancy can be greatly reduced (Gilmore et al., 2015; Lewis et al., 2013; Harper et al., 2015).

Section IV-Other Information

Funding

There was no outside funding provided for this project. The costs of this project were anticipated by preexisting budgets and covered by the DNP student. The DNP student did not receive any compensation for the execution of this project.
References


### Appendix A: Evaluation Table

<table>
<thead>
<tr>
<th>Citation</th>
<th>Design/Method/Measurement</th>
<th>Sample/Setting</th>
<th>Variables Studied and Their Definitions</th>
<th>Data Analysis</th>
<th>Findings</th>
<th>Appraisal: Worth to Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gibbs et al., 2016</td>
<td>Quantitative, Clustered randomized Trial, 40 clinics across USA, 20 to receive evidence based training and education on providing counseling and LARC insertion, and 20 to provide routine care of LARC without training</td>
<td>1500 women young at Planned Parenthood Federation of America at 40 clinics across USA</td>
<td>Dependent Variables: Counseling for LARC methods, selection of LARC method, LARC initiation within one year. Independent Variables: Age, parity</td>
<td>Logistic Regression Two group comparison of the proportion of women choosing LARCs. Intervention effect was estimated by women’s initiation of LARC.</td>
<td>Women in the intervention group had increased rates of LARC, counseling, selection, and initiation. Same day provision is important for women choosing IUDs and implants.</td>
<td>Strengths: Randomized control trial, large sample, variety of patients, and variety of providers. End point of increased education leading to increased LARC insertion achieved. Weaknesses: Study completed through a large network of specialized reproductive-health clinics and results may not be generalizable to any clinic settings. Level of Evidence: Level I</td>
</tr>
<tr>
<td>Biggs et al., 2014</td>
<td>Descriptive, cross-sectional Mail-in survey</td>
<td>1,000 Family PACT providers in California</td>
<td>LARC knowledge, beliefs, and onsite availability of IUD and implant</td>
<td>Chi-square, t tests, Mann-whitney tests</td>
<td>Evaluation of characteristics that predict onsite LARC provision based on LARC training, beliefs, and health care provider type</td>
<td>Strengths: Sample size, diverse provider network Weaknesses: Self-Report, scales for measurement have not been validated,</td>
</tr>
<tr>
<td>Study</td>
<td>Study Design</td>
<td>Sample</td>
<td>Sample Characteristics</td>
<td>Methods</td>
<td>Findings</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>--------------</td>
<td>--------</td>
<td>------------------------</td>
<td>---------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>Philliber et al., 2014</td>
<td>Mixed methods, longitudinal study, Survey</td>
<td>114 clinicians from Iowa and Colorado, who worked in Title X clinics and other family planning organizations providing LARC free of charge</td>
<td>Years of experience, training, belief, attitude and perception of LARC</td>
<td>Pearson Chi-squared test</td>
<td>Clinicians with greater number of years practicing medicine were less likely to be trained in LARC insertion. Clinicians practicing longer were more likely to report comfort in insertion practices. Clinicians with most recent licensure were more conservative with their approval of rods than providers with most years since licensure.</td>
<td></td>
</tr>
<tr>
<td>Luchowski et al., 2014</td>
<td>Descriptive, Cross-sectional Survey</td>
<td>1221 fellows of the American College of Obstetricians and Gynecologists</td>
<td>Survey: demographic characteristics, number of LARC insertions in the</td>
<td>Chi-square, covariance, and logistic regression</td>
<td>95% reported providing IUDs. Most required two or more visits for an insertion, however those requiring only one visit, reported a</td>
<td></td>
</tr>
</tbody>
</table>

Level of Evidence: Level II
<table>
<thead>
<tr>
<th>Study</th>
<th>Study Design</th>
<th>Sample Size</th>
<th>Dependent Variable</th>
<th>Data Analysis</th>
<th>Findings</th>
<th>Strengths</th>
<th>Weaknesses</th>
<th>Level of Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gilmore et al., 2015</td>
<td>Qualitative, descriptive study</td>
<td>14 semi-structured interviews with key informants involved in the implementation of LARC services for adolescents, content analyzed for key themes</td>
<td>Combination of purposive and snowball sampling to identify appropriate interview participants (14) in school based health centers in Seattle</td>
<td>Content analysis, transcripts were analyzed for codes</td>
<td>Discovered Barriers: clinician skill, confidence and training and bias and negative attitudes about LARC methods. Facilitator themes included clear communication strategies, contraceptive counseling practice changes, provider trainings, and stakeholder engagement.</td>
<td>Strengths: First study of its kind, direct information about adolescent population only, regarding LARC services practical information for SBHCs in providing LARC services</td>
<td>Weaknesses: key informants were interviewed four years after LARC services began, recall may be difficult, small sample size</td>
<td>Level of Evidence: II</td>
</tr>
<tr>
<td>Lewis et al., 2013</td>
<td>Nonexperimental, observational study</td>
<td>249 clinicians representing 186 provider sites in California, 108</td>
<td>Dependent variable: provider knowledge and number of IUD insertions</td>
<td>Wilcoxon sign rank tests, repeated-measures</td>
<td>Provider knowledge of candidate selection criteria improved from an average of 58% to an average of</td>
<td>Strengths: Design, captured data from community/ free clinics on knowledge</td>
<td>Weaknesses: Surveys relied on recall and self-report, LARC friendly respondents could be possible bias</td>
<td>Level of Evidence: II</td>
</tr>
<tr>
<td>Study</td>
<td>Design and Population</td>
<td>Sample Size</td>
<td>Methodology</td>
<td>Results</td>
<td>Strengths</td>
<td>Weaknesses</td>
<td>Level of Evidence</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------</td>
<td>-------------</td>
<td>-------------</td>
<td>---------</td>
<td>-----------</td>
<td>------------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>Harper et al., 2013</td>
<td>Qualitative national probability survey of NPs</td>
<td>586 nurse practitioners across the United States</td>
<td>Survey items included clinician characteristics, professional training, practice factors, patient populations, and contraceptive care LARC insertion methods, skill, perceptions of safety, and beliefs about patient interest.</td>
<td>Results indicated that two-thirds of women's health NPs were trained in IUD insertions, compared to 12% of primary care NPs. Routine contraceptive counseling that routinely included IUDs was routinely low (43%). NPs used overly restrictive criteria for selecting IUD. Insertion training and knowledge of patient eligibility were associated with IUD provision.</td>
<td>Nationally administered survey, high response rate, both primary care and women's health NP responses.</td>
<td>NPs were asked themselves about their practices and responses may have social desirability bias, which was not evident in the survey. Results do not include information on types of sites and if contraception methods are highly discussed or used.</td>
<td>Level III</td>
<td></td>
</tr>
<tr>
<td>Study</td>
<td>Study Design</td>
<td>Study Population</td>
<td>Data Collection Method</td>
<td>Statistical Methods</td>
<td>Findings</td>
<td>Level of Evidence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>--------------</td>
<td>------------------</td>
<td>------------------------</td>
<td>---------------------</td>
<td>----------</td>
<td>------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jacobson et al., 2016</td>
<td>Exploratory cross-sectional cohort</td>
<td>Data collected from the HER of 253 primary care practices (community health centers or independent practices), over four years</td>
<td>Diagnostics and procedure codes to count IUD insertions, removals and practice characteristics</td>
<td>Logistic Regression to predict the likelihood of IUD insertion and removal</td>
<td>More than 60% of OB and midwives preform insertions or removals each year, while only 10% of internal medicine and pediatric providers did so. Independent primary care practices are less likely to offer IUD services than community health centers.</td>
<td>Level of Evidence: Level III</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collier et al., 2014</td>
<td>Community-based participatory research project with New Haven Healthy Start, survey</td>
<td>Survey by Stanwood et al.</td>
<td>Implant training, knowledge, patient selection practices, and perceptions of cost and access</td>
<td>Fisher’s exact test</td>
<td>Only 15% of primary care providers had received formal education on implants. Only 54% of women’s health providers were trained in the insertion of implants. 41% had a wait time of at least three weeks</td>
<td>Level of Evidence: II</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Strengths: Actual insertion and counseling/visit rates accounted for. Focused exclusively on primary care practices, including solo and small group independent practices. Weaknesses: Relied on diagnostic and procedural codes for EHRs. Limited generalizability. Strengths: Survey of providers in low-income, high risk communities, included FQHCs, included all potential providers of contraceptive care, physicians, midwives, APRNS, and PAs. Weaknesses: Sample size, single city.
<table>
<thead>
<tr>
<th>Level of Evidence: III</th>
<th>Level of Evidence: III</th>
<th>Level of Evidence: II</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Murphy et al., 2016</strong></td>
<td><strong>Descriptive Semi-structured qualitative interviews</strong></td>
<td><strong>Purposeful sampling of 32 family physicians, pediatricians, and APN, Chicago</strong></td>
</tr>
<tr>
<td>Interview regarding thoughts and experiences with counseling and providing LARC to adolescents</td>
<td>Content analysis, Cohen K test</td>
<td>Provider confidence in LARC, patient-centered counseling on LARC and instrumental support for LARC work interdependently to facilitate LARC.</td>
</tr>
<tr>
<td><strong>Strengths:</strong> In-depth description and analysis of providers’ experiences, included variety of provider types, APRNs, pediatricians, and family physicians</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Weaknesses:</strong> Convenience and small sample size, lacked use of a conceptual framework or established theory</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Blumoff et al., 2013</strong></td>
<td><strong>Cross-sectional Survey, self-reported provider characteristic, practice location, primary clinical site</strong></td>
<td><strong>Data from online survey of 430 medical provider members of SAHM</strong></td>
</tr>
<tr>
<td>Provision of either contraceptive implant or IUD insertion as part of routine clinical service</td>
<td>Chi-square analysis, logistic regression</td>
<td>Exposure to LARC training in residency was the strongest predictor of any kind of LARC provision</td>
</tr>
<tr>
<td><strong>Strengths:</strong> Sample size, types of specialties surveyed</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Weaknesses:</strong> Sample from SAHM members, generalizability</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Smith et al., 2017</strong></td>
<td><strong>Cross-sectional Data extracted from electronic medical records</strong></td>
<td><strong>5,363 women receiving care within a large health system in Massachusetts</strong></td>
</tr>
<tr>
<td>Percentage of women using a LARC method, type of provider, location and adolescents LARC usage</td>
<td>Multivariate, logistic regression</td>
<td>Older adolescents were significantly more likely to use LARC. Adolescents whose primary care provider was a resident were significantly more likely to use LARC.</td>
</tr>
<tr>
<td><strong>Strengths:</strong> Cross-specialty provider education, highlights that adolescent LARC usage is multi-factorial, overall LARC usage analyzed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Kavanaugh et al., 2013
- **Methodology:** Qualitative, non-experimental Questionnaire
- **Sample Size:** 584 facilities stratified by type
- **Dependent Variable:** Facility practices related to contraceptive services
- **Independent Variable:** Facility characteristics
- **Analysis:** Chi square analysis
- **Findings:** Most common challenges to provision of LARC: cost, staff concerns, and trained staff on implant insertion
- **Strengths:** Sample size, random selection of facilities
- **Weaknesses:** Self-report data, data came from publicly funded sites
- **Level of Evidence:** II

### Kelly et al., 2017
- **Methodology:** Descriptive, Cross-sectional
- **Sample Size:** 390 APRNs across USA
- **Variables:**
  - Personal and practice characteristics (APRN: Age, level of education, number of LARCs inserted in the past year)
  - Practice Characteristics: Type, clinic location, number of visits required for IUD insertion
- **Analysis:** Regression models
- **Findings:** The most significant predictor of placement was one visit requirement for insertion. Lack of insertion training was the most frequently cited reason for not placing LARC in the past year.
- **Strengths:** Sample size, survey of nurse practitioners, survey verified appropriate to assess APRN
- **Weaknesses:** Convenience sample, snowball sampling
- **Level of Evidence:** II
January 25, 2019

The University of San Francisco supports the work of Jessamyn Phillips for her DNP Scholarly project, titled: Increasing Long Acting Reversible Contraception (LARC) Use in Primary Care. The project adds value to the work of health promotion, unintended pregnancy prevention and increasing competence and confidence in primary care providers ability to provide comprehensive family planning counselling and interventions in the community.

LARC competency and full utilization is considered a challenge in primary care and especially in the adolescent population. The student will conduct an approved workshop for both graduating FNP students and community health care providers, held and sponsored by the University of San Francisco. The workshop will offer contact hours approved by the Board of Registered Nursing.

This work promotes an increase in knowledge, skills, and tools that can facilitate a change in clinical practice and ideally improve health outcomes for the reproductive population.

We look forward to seeing the impact of Jessamyn’s project throughout the community.

Sincerely,

P. Sandhu

Prabjot (Jodie) Sandhu, DNP, FNP-C, PA-C, CNL
Director of Clinical Training NP Programs
Assistant Professor FNP Program
University of San Francisco
Appendix C: Statement of Determination

DNP Statement of Non-Research Determination Form

Student Name: Jessamyn Phillips

Title of Project: Increasing Long Acting Reversible Contraception in Primary Care: Removing the Barriers

Brief Description of Project: The aim of this project was to provide an evidenced based, hands-on training seminar for future FNP/DNP students and current providers in the San Francisco Bay area to address the competent practice level barrier that surrounds LARC provision for providers.

A) Aim Statement: By May 1, 2019, this project will develop, implement, and evaluate a LARC training workshop at the University of San Francisco School of Nursing and Health Professions geared for graduating DNP/FNP students and local primary care providers, thereby increasing future providers/providers’ confidence with insertion of LARC, as evidenced by pre and post survey results.

B) Description of Intervention: The project manager will execute a three part hands-on training seminar. One room consists of didactic, review of common myths/misconceptions about LARC, participants receive a toolkit, and participants have the opportunity to practice contraceptive counseling techniques. The other two rooms were designated as either hormonal or copper IUD hands-on training sites. All participants will complete the entire training.

C) How will this intervention change practice? The intervention targets one of the known barriers to the provision of LARC: competency. Hands-on training at the academic level facilitates use of this skill at a clinical site and addresses provider confidence/competence with insertion techniques. By dispelling myths and misconceptions, participants are able to accurately identify LARC eligible candidates. Finally, many providers feel ill-prepared to discuss different methods of contraception. By providing a toolkit and the opportunity to practice this skill, participants gain confidence in contraceptive counseling techniques.

D) Outcome measurements:

1. Enhanced provider education about current LARC practice demonstrated by pre and post training surveys.
2. Enhanced provider comfort/confidence as evidenced by self-report after hands on training and surveys
3. Increased utilization of LARC in clinical practice, as evidenced by follow up surveys to providers, after the training.

To qualify as an Evidence-based Change in Practice Project, rather than a Research Project, the criteria outlined in federal guidelines will be used: (http://answers.hhs.gov/ohrp/categories/1569)

☑ This project meets the guidelines for an Evidence-based Change in Practice Project as outlined in the Project Checklist (attached). Student may proceed with implementation.
☐ This project involves research with human subjects and must be submitted for IRB approval before project activity can commence.

Comments:

EVIDENCE-BASED CHANGE OF PRACTICE PROJECT CHECKLIST *

Instructions: Answer YES or NO to each of the following statements:

<table>
<thead>
<tr>
<th>Project Title:</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>The aim of the project is to improve the process or delivery of care with established/accepted standards, or to implement evidence-based change. There is no intention of using the data for research purposes.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The specific aim is to improve performance on a specific service or program and is a <strong>part of usual care</strong>. All participants will receive standard of care.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The project is <strong>NOT</strong> designed to follow a research design, e.g., hypothesis testing or group comparison, randomization, control groups, prospective comparison groups, cross-sectional, case control). The project does <strong>NOT</strong> follow a protocol that overrides clinical decision-making.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The project involves implementation of established and tested quality standards and/or systematic monitoring, assessment or evaluation of the organization to ensure that existing quality standards are being met. The project does <strong>NOT</strong> develop paradigms or untested methods or new untested standards.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The project involves implementation of care practices and interventions that are consensus-based or evidence-based. The project does <strong>NOT</strong> seek to test an intervention that is beyond current science and experience.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The project is conducted by staff where the project will take place and involves staff who are working at an agency that has an agreement with USF SONHP.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The project has NO funding from federal agencies or research-focused organizations and is not receiving funding for implementation research.</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>The agency or clinical practice unit agrees that this is a project that will be implemented to improve the process or delivery of care, i.e., <strong>not</strong> a personal research project that is dependent upon the voluntary participation of colleagues.</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

DNP Department Approval 5/8/14
### Appendix C: Statement of Determination (cont.)

The table below includes the necessary information regarding the project and its approval:

<table>
<thead>
<tr>
<th>Students and/or patients.</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>If there is an intent to, or possibility of publishing your work, you and supervising faculty and the agency oversight committee are comfortable with the following statement in your methods section: “This project was undertaken as an Evidence-based change of practice project at [X] hospital or agency and as such was not formally supervised by the Institutional Review Board.”</td>
<td></td>
</tr>
</tbody>
</table>

**ANSWER KEY:** If the answer to **ALL** of these items is **yes**, the project can be considered an Evidence-based activity that does NOT meet the definition of research. **IRB review is not required. Keep a copy of this checklist in your files.** If the answer to **ANY** of these questions is **NO**, you must submit for IRB approval.

*Adapted with permission of Elizabeth L. Hohmann, MD, Director and Chair, Partners Human Research Committee, Partners Health System, Boston, MA.*

**STUDENT NAME (Please print):** Jessamyn Phillips

**Signature of Student:** [Signature]

**DATE:** 1/2019

**SUPERVISING FACULTY MEMBER (CHAIR) NAME (Please print):** Prabhjot Sandhu

**Signature of Supervising Faculty Member (Chair):** [Signature]

**DATE:** 1/2019

---

**DNP Department Approval 5/8/14**
Appendix D: Work Breakdown Structure

Hands-on training LARC seminar

- Literature Review
  - Key Word Search
  - Search Grey Literature
  - Complete Evidence Table
  - Submit to journal for review
  - Publish Systematic Review

- Planning
  - Establish Committee
  - Develop project plan
  - Submit plan to committee
  - Obtain written support from USF
  - Obtain support from LARC representatives

- Implementation
  - Meet and assign groups for seminar
  - Distribute toolkits and pre-engagement surveys
  - 50-minute stations: Contraceptive counseling, copper or hormonal insertion practice
  - Distribute Program evaluation
  - Distribute post-engagement survey
  - Debrief with project participants
  - Debrief with committee chair
  - Create toolkit: powerpoint, pocketguide, and hands-on training stations

- Evaluation
  - Review pre/post intervention surveys
  - Compare survey results
  - Analyze results
  - Meet with stakeholders

- DNP Project Write up/Presentation
  - Complete DNP product paper
  - Submit product writeup to committee
  - Make suggested edits/changes
  - Create presentation for DNP project defense
  - Present DNP project to committee and stakeholders
  - Milestone: DNP project/presentation/degree completed
Appendix E: Communication Matrix

**Communication Matrix**

<table>
<thead>
<tr>
<th>Information</th>
<th>Audience</th>
<th>When</th>
<th>Method of Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Coordination and Planning</td>
<td>DNP chair, Bayer and Cooper/Surgical reps.</td>
<td>Weekly-Biweekly</td>
<td>Email/Meeting/Phone/Zoom</td>
</tr>
<tr>
<td>Project Status</td>
<td>DNP chair, Bayer and Cooper/Surgical reps.</td>
<td>Weekly-Biweekly</td>
<td>Email/Meeting</td>
</tr>
<tr>
<td>Project Changes</td>
<td>DNP chair, Bayer and Cooper/Surgical reps.</td>
<td>As needed</td>
<td>Email</td>
</tr>
<tr>
<td>Milestone report</td>
<td>DNP committee</td>
<td>Monthly</td>
<td>Email/Meeting</td>
</tr>
<tr>
<td>Variances/Problem resolution</td>
<td>DNP chair, Bayer and Cooper/Surgical reps.</td>
<td>As needed</td>
<td>Email/Meeting</td>
</tr>
</tbody>
</table>
Appendix F: Gap Analysis

<table>
<thead>
<tr>
<th>Current State</th>
<th>Best Practice</th>
<th>Proposed Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absence of hands-on training with insertion techniques for LARC devices at the academic level</td>
<td>Recommend hands-on training seminar incorporated into a women’s health day each cohort can attend</td>
<td>Incorporate hands-on training seminar into USF curriculum and utilize assistance of Bayer and Cooper/Surgical training representatives, as well as completion of Bixby Center for Global Reproductive Health’s module, “An update on long-acting reversible contraception.”</td>
</tr>
<tr>
<td>Graduating FNP students (89% of which will go on to become primary care providers) do not feel knowledgeable of LARC devices and competent in identifying LARC eligible candidates</td>
<td>Recommend a portion of women’s health day seminar dedicated to reviewing specific LARC devices and use MEC guidelines to practice identifying LARC eligible candidates.</td>
<td>Incorporate power point, didactic, and toolkit as deliverables for a LARC seminar into USF curriculum which includes easily accessible MEC guidelines and absolute contraindications for LARC devices.</td>
</tr>
<tr>
<td>USF FNP students complete current course requirements without feeling sufficiently prepared to provide comprehensive contraceptive counseling to patient populations</td>
<td>Recommend a portion of women’s health day seminar dedicated to providing simulation based contraceptive counseling scenarios and practice opportunities for FNP students</td>
<td>Incorporate contraceptive counseling scenarios as a portion of USF’s women’s health day for FNP students to practice and gain comfort/comfort with counseling techniques including the one key question and the shared-decision making model.</td>
</tr>
</tbody>
</table>
INCREASING LONG ACTING REVERSIBLE CONTRACEPTION IN

Appendix G: GANNT Chart
Appendix H:

SWOT Analysis

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Evidence supports the use of provider and patient education, increases LARC rates</td>
<td>1) Unable to require all FNP students to attend training</td>
</tr>
<tr>
<td>2) When all barriers are removed (systemic, patient, and provider), 67% of women will choose LARC</td>
<td>2) Lack of buy-in from all USF faculty</td>
</tr>
<tr>
<td>3) Low cost of training in the academic setting</td>
<td>3) Some family practices would rather refer out to a specialty than to receive training</td>
</tr>
<tr>
<td>4) Networking for students and device representatives for clinical sites</td>
<td></td>
</tr>
<tr>
<td>5) Dean support</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Provide training during academic preparation rather than waiting until in the field</td>
<td>1) Appeal of the Affordable Care Act</td>
</tr>
<tr>
<td>2) Empower providers to advocate for utilization of one of the most effective form of contraception, LARC</td>
<td>2) Author will not be present following the completion of the project and to sustain this training at USF</td>
</tr>
<tr>
<td>3) Improved outcomes for women who are able to achieve desired spacing of children, possibly obtaining higher education or greater financial stability</td>
<td>3) Lack of interest by FNP students/faculty</td>
</tr>
<tr>
<td></td>
<td>4) Patient coercion</td>
</tr>
</tbody>
</table>
Appendix I: Budget

<table>
<thead>
<tr>
<th>Direct Expenses</th>
<th>Hours</th>
<th>Projected</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNP Student @ 62.47/hr</td>
<td>135</td>
<td>$8,433.45</td>
<td>$0 (Student time)</td>
</tr>
<tr>
<td>Bayer and CooperSurgical representatives training 30 participants</td>
<td>4</td>
<td>$0 (In Kind)</td>
<td>$0 (In Kind)</td>
</tr>
<tr>
<td>Vaginal simulators for IUD placement insertion practice (24)</td>
<td></td>
<td>$2,208</td>
<td>$0 (In Kind)</td>
</tr>
<tr>
<td>IUD practice devices (90)</td>
<td></td>
<td>$450</td>
<td>$0 (In Kind)</td>
</tr>
<tr>
<td>Supplies: Toolkits, lamination sheets, folders, book rings, printing, refreshments</td>
<td></td>
<td>$300</td>
<td>$317 (office supplies) $28 (refreshments)</td>
</tr>
<tr>
<td>Venue reservation @ USF</td>
<td></td>
<td>$0</td>
<td>$0 (In Kind)</td>
</tr>
<tr>
<td>Estimated Total</td>
<td></td>
<td>$11,391.45</td>
<td>$345</td>
</tr>
</tbody>
</table>
## Appendix J: ROI

<table>
<thead>
<tr>
<th>Device</th>
<th>Cost of Device</th>
<th>Reimbursement/Payer</th>
<th>Billable Visit/Procedure</th>
<th>Potential Net Profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mirena</td>
<td>$770/unit</td>
<td>$847.90/Medi-Cal for device</td>
<td>58300 (IUD Insertion)</td>
<td>$936.23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$858.33/Medi-Cal for insertion</td>
<td>J7298 (Mirena insertion)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Z30.014 Encounter for initial prescription of intrauterine contraceptive device</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Z30 Encounter for contraceptive management</td>
<td></td>
</tr>
<tr>
<td>Kyleena</td>
<td>$770/unit</td>
<td>$908.97/Medi-Cal for device</td>
<td>58300 (IUD Insertion)</td>
<td>$823.35</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$684.38/Medi-Cal for insertion</td>
<td>J3490 (Kyleena insertion)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Z30.014 Encounter for initial prescription of intrauterine contraceptive device</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Z30 Encounter for contraceptive management</td>
<td></td>
</tr>
<tr>
<td>Paragard</td>
<td>$702/unit</td>
<td>$847.90/Medi-Cal for device</td>
<td>58300 (IUD Insertion)</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>----------</td>
<td>----------------------------</td>
<td>-----------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$808.50/ Medi-Cal insertion</td>
<td>J7300 (copper insertion)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Z30.014 Encounter for initial prescription of intrauterine contraceptive device</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Z30 Encounter for contraceptive management</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$954.40</td>
<td></td>
</tr>
</tbody>
</table>
FEBRUARY 8, 2019 1-5 PM
LONG ACTING REVERSIBLE CONTRACEPTION (LARC)
HANDS-ON TRAINING WORKSHOP

IUD guidelines and insertion training
Join us February 8, 2019 at the University of San Francisco for a four-hour workshop to learn about best practices for provision of IUDs. This LARC workshop will provide participants the opportunity for hands-on training, strategies to reduce barriers to LARC access, and effective contraceptive counseling techniques. To register or to find out more about this event, please contact Jessamyn Phillips at jcphillips2@dons.usfca.edu.

One in four women seeking private family planning will turn to a family provider.

LARC methods are safe, reliable, and easy to use.

LARC methods are 20 times more effective than the pill.

LARC have few contraindications and should be offered routinely for most women.

Date: February 8, 2019
Location: Cowell Hall 312
2130 Fulton st.
San Francisco, CA 94117
Cost: Free
Contact Hours: 4
Appendix L: Agenda

Long Acting Reversible Contraception Workshop Agenda

LARC in Primary Care: Removing the Barriers

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>1300-1315</td>
<td>Welcome</td>
<td>Jessamyn Phillips</td>
</tr>
<tr>
<td></td>
<td>• Review agenda</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Establish groups</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Complete preworkshop survey</td>
<td></td>
</tr>
<tr>
<td>1315-1405</td>
<td>Simulation stations</td>
<td>Facilitators/Educators</td>
</tr>
<tr>
<td>1405-1415</td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>1415-1505</td>
<td>Simulation stations</td>
<td>Facilitator/Educators</td>
</tr>
<tr>
<td>1505-1510</td>
<td>Rotate Rooms</td>
<td></td>
</tr>
<tr>
<td>1510-1600</td>
<td>Simulation Stations</td>
<td>Facilitator/Educators</td>
</tr>
<tr>
<td>1600-1630</td>
<td>Closing</td>
<td>Jessamyn Phillips</td>
</tr>
<tr>
<td></td>
<td>• Post workshop survey</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Program evaluation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Group Photo</td>
<td></td>
</tr>
</tbody>
</table>

Learning Objectives

1) Learners will be able to describe LARC effectiveness, side effects, & benefits.
2) Learners will comprehend common misinformation about LARC.
3) Learners will apply best practice for counseling on contraception.
4) Learners will complete hands-on training with IUD insertion techniques.
5) Learners will increase comfort with LARC utilization in clinical practice.

<table>
<thead>
<tr>
<th>Times</th>
<th>Contraceptive Counseling Room CO 312</th>
<th>Hormonal IUD Room CO 414</th>
<th>Nonhormonal IUD Room CO 413</th>
</tr>
</thead>
<tbody>
<tr>
<td>1315-1405</td>
<td>Group A</td>
<td>Group B</td>
<td>Group C</td>
</tr>
<tr>
<td>1415-1505</td>
<td>Group B</td>
<td>Group C</td>
<td>Group A</td>
</tr>
<tr>
<td>1510-1600</td>
<td>Group C</td>
<td>Group A</td>
<td>Group B</td>
</tr>
<tr>
<td>1600-1630</td>
<td>All groups CO 312</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix M: Power Point Slides

Learning Objectives for LARC workshop
- Describe LARC effectiveness, side effects, & benefits
- Identify common misinformation about LARC
- List key counseling points
- Each participant will have hands-on training with IUD insertion techniques
- Each participant will increased knowledge, comfort, and confidence in contraceptive counseling and LARC provision

Some statistics to think about
- The unintended pregnancy rate is 45% in the United States.
- The average U.S. woman wants two children; to accomplish this, a woman will spend decades of her reproductive life trying to avoid pregnancy.
- Roughly 80% of teenage pregnancies are unplanned. Only 1% of teen mothers who have a child before they turn 18 have a high school diploma, and less than 2% earn a college degree by age 30.
- If a young woman becomes pregnant, has an abortion, and does not have access to birth control, there is a 50% chance she will become pregnant again within a year. (Guttmacher Institute, 2018)

Agency Recommendations
LARC is endorsed by many leading health organizations for use in women of all ages
- ACOG: LARC remains among the safest and most effective contraceptive methods available (ACOG, 2017)
- AAP: the first-line contraceptive choice for adolescents who choose not to be abstinent is a LARC (AAP, 2015)
- CDC: Recognize LARC as a safe and effective first-line choice of birth control for teens, according to clinical guidelines. Healthcare providers should seek training in LARC insertion and removal (CDC, 2017)
Appendix M: Power Point Slides (cont.)

Common myths & misconceptions

- Adolescents and nulliparous women are not appropriate candidates for IUDs
- IUDs cause infertility
- IUDs cause ectopic pregnancy
- Results of STI screening must be confirmed before IUD insertion

MEC Guidelines/Contraindications

- Pregnancy
- Unexplained vaginal bleeding
- Anatomical abnormalities
- Current PID/STI
- Copper allergy (paragard)
- Silver allergy (skyla)

How can a healthcare provider be reasonably certain that a woman is not pregnant?

If she has no symptoms or signs of pregnancy and meets one of the following criteria:

- Is 17 days after the start of normal menses
- Has not had sexual intercourse since the start of last normal menses
- Is 57 days after spontaneous or induced abortion
- Is within 4 weeks postpartum
- Is fully or near fully breast-feeding (exclusively breast-feeding or the vast majority [≥ 85%] of foods are breastfeeds); amenorrheic, and < 6 months postpartum

Contraception Selection

Contraception as a choice not a prescription

- Few treatment options that require detailed counseling and patient selection of prescription in healthcare
- Providers need to be adequately educated, competently prepared, and free from all bias to accurately inform patients
- Contraceptive CHOICE Project (2007-2011)
  - 10,000 women, prospective study of choice
  - Cost, patient knowledge, and access barriers removed
  - Results: 67% of women chose the most effective and least user-dependent methods (LARC) (Jackson et al., 2012)

Where to start

One Key Question (2015)

Contraceptive Counseling

Contraceptive Counseling: Patient/Provider Perspectives

getLARC
Case study number one
An 18-year-old white female presents today to discuss contraceptive options. G2T0P02AL0
• Where do you start?
• What key information do you want to know?
• Which option would you recommend?
• Education

Case study number two
32 year old African American female presents today to discuss contraceptive options. G3T3P1ML3
• Where do you start?
• What key information do you want to know?
• Which option would you recommend?
• Education

Conclusion
• Managing sexual and reproductive health should take place at the primary care level
• Best practice supports the use of LARC as first line in the prevention of unintended pregnancy in most women
• Providers should never be a barrier to LARC access
• By removing barriers to the provision of LARC, unintended pregnancy rates could be significantly reduced.

References

Questions?
Contact Information:
Jessamy C. Phillips, DNP (c), MPHS, BSN, RN
jessamy.phillips@gmail.com

Appendix N: Toolkit

Summary Chart of U.S. Medical Eligibility Criteria for Contraceptive Use
### Summary Chart of U.S. Medical Eligibility Criteria for Contraceptive Use

#### Condition

<table>
<thead>
<tr>
<th>Condition</th>
<th>Sub-Condition</th>
<th>CHC</th>
<th>POP</th>
<th>Injection</th>
<th>Implant</th>
<th>LNG-IUD</th>
<th>Cu-IUD</th>
<th>I</th>
<th>C</th>
<th>I</th>
<th>C</th>
<th>I</th>
<th>C</th>
<th>I</th>
<th>C</th>
<th>I</th>
<th>C</th>
<th>I</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ischemic heart disease</strong></td>
<td>Current and history of</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liver tumors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Benign</td>
<td></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Focal nodular hyperplasia</td>
<td></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Hepatocellular adenoma</td>
<td></td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Malignant</td>
<td></td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malaria</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple risk factors for arterial cardiovascular disease</td>
<td>(such as older age, smoking, diabetes and hypertension)</td>
<td>3/4</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obesity</td>
<td>a) Age ≥ 35</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Menarche to ≤ 18 years and ≥ 30 kg/m² BMI</td>
<td></td>
<td>2</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ovarian cancer</td>
<td>a) Nulliparous</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Parous</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Past ectopic pregnancy</td>
<td>a) Any</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pelvic inflammatory disease</td>
<td>a) Past, (assuming no current risk factors for sexually transmitted infections (STIs))</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Pelvic inflammatory disease</td>
<td>i) With subsequent pregnancy</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Without subsequent pregnancy</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thrombophrophic mutations</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pelvic inflammatory disease</td>
<td>a) Postpartum (see also breastfeeding)</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Normal or mildly impaired cardiac function</td>
<td></td>
<td>4</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Moderately or severely impaired cardiac function</td>
<td></td>
<td>4</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Postpartum (see also breastfeeding)</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) &lt;21 days</td>
<td></td>
<td>4</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) ≥26 weeks</td>
<td></td>
<td>3</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Postpartum (see also breastfeeding)</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vaginal bleeding patterns</td>
<td>a) Uncomplicated</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Irregular pattern without heavy bleeding</td>
<td></td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viral hepatitis</td>
<td>a) Acute or flare</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Antitumoral therapy</td>
<td>a) Nonspecific reverse transcriptase inhibitors</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drug Interactions</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Nonspecific reverse transcriptase inhibitors</td>
<td></td>
<td>2</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Please see the complete guidance for a clarification to this classification. Condition that exposes a woman to increased risk as a result of unintended pregnancy. Updated June 2012. This summary sheet only contains a subset of the recommendations from the U.S. Medical Eligibility Criteria for Contraceptive Use, 2010. For complete guidance, see: [http://www.cdc.gov/reproductivehealth/unintendedpregnancy/USMEC.htm](http://www.cdc.gov/reproductivehealth/unintendedpregnancy/USMEC.htm)
Appendix N: Toolkit (cont.)

**HOW WELL DOES BIRTH CONTROL WORK?**

<table>
<thead>
<tr>
<th>Method</th>
<th>Effectiveness</th>
<th>How Often to Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implant</td>
<td>High</td>
<td>4 years</td>
</tr>
<tr>
<td>Hormonal IUDs</td>
<td>High</td>
<td>3-7 years</td>
</tr>
<tr>
<td>Copper IUD</td>
<td>Medium</td>
<td>12 years</td>
</tr>
<tr>
<td>Sterilization</td>
<td>Very High</td>
<td>Forever</td>
</tr>
</tbody>
</table>

- **Really, really well**
- **Pretty well**
- **Not as well**

**What is your chance of getting pregnant?**

- Less than 1 in 100 women
- 6-9 in 100 women
- 12-24 in 100 women

Use a condom with any other method for STI protection.
Appendix N: Toolkit (cont.)

Dispelling Long-Acting Reversible Contraception (LARC) Myths & Misconceptions
Fact Sheet

MYTH: Adolescents and nulliparous women are not appropriate candidates for IUDs.

FACT: Adolescents and nulliparous women can be offered LARC methods, including IUDs. The U.S. Medical Eligibility Criteria for Contraceptive Use, classifies both women who haven’t had children and adolescents as Category 2, finding the advantages generally outweigh the risks. IUDs and implants have the highest effectiveness, continuation rates, and user satisfaction of all reversible methods.

MYTH: IUDs cause infertility.

FACT: IUDs do NOT cause infertility or make it harder to conceive in the future. Infertility is no more likely after discontinuation of IUD use than after discontinuation of other reversible methods of contraception. In the past, there was concern that IUD use could lead to infertility due to increased chance of sexually transmitted infections (STIs). While untreated STIs can lead to pelvic infection, preventing some women from getting pregnant, ample research shows that today’s IUDs do not increase STI infection rates or lead to infertility. STI testing should be performed at the time of IUD insertion, if indicated. However, all women, including those using IUDs, should see a health care provider if they have new or unusual vaginal discharge or pelvic pain.

MYTH: IUDs cause ectopic pregnancy.

FACT: The IUD does not cause ectopic pregnancy. An ectopic pregnancy happens when a fertilized egg implants somewhere outside the uterus, like in the fallopian tubes. There is a chance any pregnancy could be ectopic, and in the very unlikely event a woman becomes pregnant while using an IUD, her chances of having an ectopic pregnancy may be increased. However, since the chance of becoming pregnant while using an IUD is so low, the overall risk of having an ectopic pregnancy is greatly reduced while using an IUD as compared to not using any contraceptive method.

MYTH: A woman who has had an ectopic pregnancy should not use an IUD.

FACT: Women who have had an ectopic pregnancy can use IUDs. IUDs decrease the absolute risk of ectopic pregnancy, whether a woman has had an ectopic pregnancy before or not. Since the chance of becoming pregnant with an IUD is so low, the overall risk of having an ectopic pregnancy is greatly reduced while using an IUD as compared to not using any contraceptive method.

MYTH: If a woman using an IUD develops an STI or pelvic inflammatory disease (PID), the IUD should be removed immediately.

FACT: If a woman using an IUD develops an STI or PID she should be treated with antibiotics right away and can keep the device in place if her symptoms improve within 72 hours (3 days). If the symptoms do not improve within that time, the device should be removed.

3 Ibid.
4 Ibid.
### Appendix N: Toolkit (cont.)

<table>
<thead>
<tr>
<th>Myth</th>
<th>Fact</th>
</tr>
</thead>
</table>
| Results of STI screening must be confirmed before IUD insertion. | Studies show that IUD insertion in patients without clinical signs of an STI is safe. Requiring testing and then a return visit for IUD insertion decreases the chance that a patient gets her IUD, leaving her at risk for an unintended pregnancy. For this reason, same-day insertion of an IUD is a recommended best practice, with routine treatment of any subsequent positive STI screening results undertaken following insertion. Routine antibiotic prophylaxis to prevent pelvic infection is not recommended before IUD insertion. 

**Ibid.**

<table>
<thead>
<tr>
<th>Myth</th>
<th>Fact</th>
</tr>
</thead>
</table>
| Patients should be menstruating for IUD insertion (i.e., return to the office/clinic when menses starts). | Studies show that there is no clinical advantage to IUD insertion during menses and that it decreases the chance that a patient will actually return to the office to get an IUD, potentially leaving her at risk for an unintended pregnancy. For this reason, same-day insertion of an IUD is a recommended best practice as long as pregnancy may be reasonably excluded. Refer to the CDC US Selected Practice Recommendations (US SPR) for Contraceptive Use, 2016.

**Ibid.**

<table>
<thead>
<tr>
<th>Myth</th>
<th>Fact</th>
</tr>
</thead>
</table>
| Immediate Postpartum (IPP) IUD insertion is associated with high expulsion rates. | IUD expulsion rates are slightly higher with immediate postpartum placement (10-27% versus 2-10% for interval insertion). The vast majority of women who receive an IUD immediately postpartum will not experience an expulsion and the advantages of IPP placement outweigh the risks. Many women do not return for postpartum follow-up appointments when contraception is often discussed. Therefore, immediate postpartum LARC insertion presents an opportunity to provide a woman with a contraceptive method of her choice while in the hospital for delivery and should not be dismissed.

**Ibid.**

<table>
<thead>
<tr>
<th>Myth</th>
<th>Fact</th>
</tr>
</thead>
</table>
| Breastfeeding mothers are not appropriate candidates for immediate postpartum LARC. | Most women can successfully breastfeed after immediate postpartum initiation of any LARC method. Women considering immediate postpartum hormonal LARC should be counseled about the theoretical risk of reduced duration of breastfeeding, but that the preponderance of the evidence has not shown a negative effect on actual breastfeeding outcomes. The U.S. Medical Eligibility Criteria for Contraceptive Use rates the copper IUD a category 1 (no restriction) for breastfeeding women due to its lack of hormones and the hormonal IUD and implant a category 2 less than 4 weeks postpartum (otherwise a category 1), making LARC an option for immediate postpartum use.

**American College of Obstetricians and Gynecologists. ACOG Committee Opinion: Clinical Challenges of Long-Acting Reversible Contraceptive Methods, Number 672, September 2016.**

**American College of Obstetricians and Gynecologists. ACOG Committee Opinion: Immediate Postpartum Long-Acting Reversible Contraception, Number 670, August 2016.**
Hormonal Intrauterine Device (IUD) FACT SHEET

The hormonal IUD is a small, T-shaped device made of soft plastic which is placed in the uterus by your health care provider. The hormonal IUD, also known as the Mirena®, Liletta®, Kyleena®, Skylla®, contains a small amount of progesterone, a hormone that all women make naturally. The hormonal IUD works by preventing sperm from joining with an egg. It does this by thickening the cervical mucus and making the lining of the uterus (called the endometrium) very thin. The hormonal IUD is one of the most effective methods at preventing pregnancy, more than 99% effective.

IUD's are inserted after a pelvic exam. Your clinician will place a speculum and steady your cervix with an instrument. The IUD will be placed through the opening in your cervix into the uterus. You may feel cramping during the procedure. A short length of plastic "string" will hang down inside your vagina. You can check the string to make sure the IUD is still in place.

The IUD does not protect against sexually transmitted infections (STIs). Condoms are the best way for sexually active people to reduce the risk of infection. Always use a condom to prevent STIs.

Advantages of IUDs:
- Highly effective reversible birth control
- Can be used while breastfeeding
- Nothing to do right before sex to make it work
- Ability to become pregnant returns quickly when removed

Advantages of the hormonal IUD:
- Lighter or less frequent periods, some women stop having periods completely
- Decreased menstrual cramps
- Approved for three to five years and may be effective for longer

Disadvantages of the IUD:
Possible side effects that may improve for the first 3 to 6 months:
- Irregular periods or spotting between periods
- Cramping or backache

Other possible disadvantages of the IUD:
- Mild to moderate discomfort with placement
- Needs to be placed and removed by a health care provider

Risks of using the IUD:
- Perforation — Very rarely, the IUD is pushed into and through the wall of the uterus during insertion. This is called perforation. It could damage your internal organs. Sometimes surgery is needed to remove the IUD.
- Expulsion — Sometimes the IUD can partly or completely slip out of the uterus, which is called expulsion. This happens to about 5% of women who have an IUD. You can become pregnant if it happens.
- Pregnancy — The chance that a pregnancy will happen is very small. If it does, there is an increased risk of serious problems including ectopic (tubal) pregnancy, infection, miscarriage, and early labor and delivery. We recommend immediate evaluation and removal of the IUD if this happens.
- Infection — PID (pelvic inflammatory disease) associated with using an IUD is rare. PID may lead to infertility. Most PID related to IUD use occurs within three weeks of insertion.
The hormonal IUD cannot be used by women who:
  o Are, or think they are pregnant
  o Currently have or have had any pelvic infection within the past three months
  o Currently have signs of a cervical infection or have a known infection such as gonorrhea or chlamydia
  o Have cervical or uterine cancer that hasn’t been treated
  o Have certain abnormalities of the uterus
  o Have abnormal vaginal bleeding that has not been evaluated
  o Have liver disease
  o Currently have, or have a history of breast cancer

Tell your clinician if you have any of these risk factors or conditions or any other past or current medical problems or concerns. Your clinician will examine you and evaluate your risks – including your risk for STIs – and will help you decide if the IUD is right for you. Sometimes special tests or follow up may be needed.

Warning signs – Call your health care provider right away if you:
  o Notice any change in the length of the string or can feel part of the IUD or think your IUD might have fallen out
  o Think you are pregnant
  o Have unusual pelvic pain in your abdomen
  o Have been, or might have been, exposed to an STI
  o Have unusual vaginal discharge
  o Have unexplained fever or chills
  o Have unusually heavy bleeding from the vagina.

Regular physical examinations for routine health care and for STIs and cancer screening are strongly recommended.
Copper Intrauterine Device (IUD) FACT SHEET

The copper IUD is a small, T-shaped device of soft plastic and copper that is placed in the uterus. The copper IUD, also known as ParaGard® has copper and does not have any hormones. IUD’s prevent sperm from joining with an egg. The IUD is one of the most effective forms of contraception, more than 99% effective.

- IUD’s are inserted after a pelvic exam. Your clinician will place a speculum and steady your cervix with an instrument. The IUD will be placed through the opening in your cervix into the uterus. You may feel cramping during the procedure. A short length of plastic “string” will hang down inside your vagina. You can check the string to make sure the IUD is still in place.
- The IUD does not protect against sexually transmitted infections (STIs). Condoms are the best way for sexually active people to reduce the risk of infection. Always use a condom to prevent STIs.

Advantages of the copper IUD:
- Highly effective reversible birth control
- Works immediately upon insertion
- Can be used while breastfeeding
- Nothing to do right before sex to make it work
- Ability to become pregnant should return quickly when removed
- No hormones
- Approved for 10 years and may be effective for longer
- Can use for emergency contraception

Disadvantages of the IUD:
- Possible side-effects that may improve over the first 3 to 6 months
  - Heavier, longer periods or increased menstrual cramps
  - Cramping or backache
  - Irregular periods or spotting between periods

Risks of using the IUD:
- Perforation – Very rarely, the IUD is pushed into and through the wall of the uterus during insertion. This is called perforation. It could damage your internal organs. Sometimes surgery is needed to remove the IUD.
- Expulsion – Occasionally, the IUD will partly or completely slip out of the uterus. This is called expulsion. You can become pregnant if it happens.
- Pregnancy – The chance that a pregnancy will happen is very small. If it does, there is an increased risk of serious, problems including ectopic (tubal) pregnancy, infection, miscarriage, and early labor and delivery. We recommend immediate evaluation and removal of the IUD if this happens.
- Infection – PID (pelvic inflammatory disease) associated with using an IUD is rare. PID may lead to sterility. Most PID related to IUD use occurs within three weeks of insertion.
The copper IUD cannot be used by women who:
- Are, or think they are, pregnant
- Currently have or have had any pelvic infection with the past three months
- Currently have signs of a cervical infection or have a known infection such as gonorrhea or chlamydia
- Have cervical or uterine cancer that hasn't been treated
- Have certain abnormalities of the uterus
- Have abnormal vaginal bleeding that has not been evaluated
- Have, or may have, an allergy to copper or have Wilson's Disease

Tell your clinician if you have any of these risk factors or conditions or any other past or current medical problems or concerns. Your clinician will examine you and evaluate your risks – including your risk for STIs – and will help you decide if the IUD is right for you. Sometimes special test or follow up may be needed.

Warning Signs – Call your healthcare provider right away if you:
- Notice any change in the length of the string or can feel part of the IUD or think your IUD might have fallen out
- Think you are pregnant
- Have unusual pelvic pain in your abdomen
- Have been, or might have been, exposed to an STI
- Have unusual vaginal discharge
- Have unexplained fever or chills
- Have unusually heavy bleeding from the vagina

Regular physical examinations for routine health care, STI and cancer screening are strongly recommended.
Appendix O: Pre-engagement Survey

Long Acting Reversible Contraception (LARC) Workshop Pre-engagement survey

1) How confident do you feel selecting LARC (long acting reversible contraception) eligible candidates?
   o Extremely
   o Quite
   o Moderately
   o Slightly
   o Not at all

2) How knowledgeable do you feel about LARC in general?
   o Extremely
   o Quite
   o Moderately
   o Slightly
   o Not at all

3) How ready do you feel to insert an IUD?
   o Extremely
   o Quite
   o Moderately
   o Slightly
   o Not at all

4) How confident do you feel inserting an IUD?
   o Extremely
   o Quite
   o Moderately
   o Slightly
   o Not at all

5) Do you feel hands-on training is an effective approach to learning IUD insertion?
   o Extremely
   o Quite
   o Moderately
   o Slightly
   o Not at all

Comments:
Appendix P: Post-engagement survey

Long Acting Reversible Contraception (LARC) Workshop Post-engagement survey

1) How confident do you feel selecting LARC (long acting reversible contraception) eligible candidates?
   - Extremely
   - Quite
   - Moderately
   - Slightly
   - Not at all

2) How knowledgeable do you feel about LARC in general?
   - Extremely
   - Quite
   - Moderately
   - Slightly
   - Not at all

3) How ready do you feel to insert an IUD?
   - Extremely
   - Quite
   - Moderately
   - Slightly
   - Not at all

4) How confident do you feel inserting an IUD?
   - Extremely
   - Quite
   - Moderately
   - Slightly
   - Not at all

5) Do you feel hands-on training was an effective approach to learning IUD insertion?
   - Extremely
   - Quite
   - Moderately
   - Slightly
   - Not at all

Comments:
Appendix Q: Pre-Post Intervention Survey Questionnaire Results

N=31

<table>
<thead>
<tr>
<th>Q</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>How confident do you feel selecting LARC eligible candidates</td>
</tr>
<tr>
<td>Q2</td>
<td>How knowledgeable do you feel about LARC in general</td>
</tr>
<tr>
<td>Q3</td>
<td>How ready do you feel to insert an IUD</td>
</tr>
<tr>
<td>Q4</td>
<td>How confident do you feel inserting an IUD</td>
</tr>
<tr>
<td>Q5</td>
<td>Do you feel hands-on training is an effective approach to learning IUD insertion</td>
</tr>
</tbody>
</table>

Key: 1=Not at all, 2=Slightly, 3=Moderately, 4=Quite, 5=Extremely
LARC Workshop Evaluation Form

Your feedback is critical for continuing education and to ensure we are meeting your educational needs. We would appreciate if you could take a few minutes to share your opinions with us so we can serve you better.

Please return this form to the instructor or organizer at the end of the workshop. Thank you.

Workshop title: ____________________________
Date: ____________________________
Instructor: ____________________________

1. The content of the workshop met the stated objectives
   Strongly agree: 1 2 3 4 5

2. The workshop was applicable to my job/future FNP role
   Strongly agree: 1 2 3 4 5

3. I will recommend this workshop to other providers
   Strongly agree: 1 2 3 4 5

4. The program was well paced within the allotted time
   Strongly agree: 1 2 3 4 5

5. The instructor was a good communicator
   Strongly agree: 1 2 3 4 5

6. The material was presented in an organized manner
   Strongly agree: 1 2 3 4 5

7. The instructor was knowledgeable on the topic
   Strongly agree: 1 2 3 4 5

8. I feel more confident with insertion techniques of an IUD
   Strongly agree: 1 2 3 4 5

9. Given the topic, this workshop was:
   a. Too short □ b. Right length □ c. Too long □

10. In your opinion, this workshop was:
    a. Introductory □ b. Intermediate □ c. Advanced □

11. Please rate the following:
    a. Power Point Presentation
        Excellent □ Very Good □ Good □ Fair □ Poor □
    b. Hands-on training
        Excellent □ Very Good □ Good □ Fair □ Poor □
    c. Meeting space
        Excellent □ Very Good □ Good □ Fair □ Poor □
    d. Handouts
        Excellent □ Very Good □ Good □ Fair □ Poor □
    e. The program overall
        Excellent □ Very Good □ Good □ Fair □ Poor □

12. What did you most appreciate/enjoy/think was best about the course? Any suggestions for improvement?

________________________________________________________________________
________________________________________________________________________

________________________________________________________________________
Appendix S: LARC workshop evaluation for results

Key: 1=Strongly agree, 5=Strongly disagree

Key: Q9 1=too short, 2=Right length, 3=Too long, Q10 1=Introductory, 2=Intermediate, 3=Advanced
LARC workshop evaluation for results (cont.)

Key1=Excellent, 2=Very good, 3=Good, 4=Fair, 5=Poor
<table>
<thead>
<tr>
<th>Theme</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Hands-on                      | “Hands-on training and opportunity to ask questions.”  
                                   “Enjoyed hands-on training/model training.”  
                                   “The hands on experience inserting IUDs was very helpful. I enjoyed the module and laminated handouts with be great to use in practice.”  
                                   “It was very helpful to get hands on experience.”  
                                   “The hands on application and the handouts.”  
                                   “Hands-on approach to inserting IUDs was a great interactive model. Really helpful. The conversation starters were great. Nice job.”  
                                   “Hands-on experience.”  
                                   “Hands-on demo was very beneficial.”  
                                   “It was great to practice with actual equipment and the training tools (models).”  
                                   “Hands-on training was great!”  
                                   “Hands-on training.” |
| Presentation/Handouts         | “The pace and the take home materials”  
                                   “Excellent presentation and hands-on training.”  
                                   “Excellent presentation, very informative and pertinent for my future practice.”  
                                   “Very informative and very well put together.”  
                                   “Loved it. The handouts are wonderful. I will definitely use them.”  
                                   “Very informative and very well put together.” |
| Implement for future NP cohorts | “A great course to prepare us for NP practice. This should be incorporated into teaching of every cohort.”  
                                   “Specialized focus on IUD placement is important to learn while still in school.”  
                                   “Such a great experience, I hope this is continued in future cohorts.” |
| Other                         | “I love the IUD insertion hands-on. Implant should be included in this workshop. It’s also a LARC.”  
                                   “If there is any way to follow-up with a live model that would be great. I know that is tough to do, but would be excellent.”  
                                   “Mirena and paragard practice.” |
Appendix T: Post LARC workshop survey (4 weeks)

Long Acting Reversible Contraception (LARC) Workshop Post-training Survey

This survey will take about two minutes to complete and will provide feedback on clinical experience after the IUD workshop.

1. Have you had the opportunity to insert an IUD device since the workshop?
   - Yes
   - No

2. Since the workshop, do you feel more prepared to insert an IUD device?
   - Quite a bit
   - Somewhat
   - Not really

3. Has your knowledge increased in counseling patients surrounding LARC?
   - Quite a bit
   - Somewhat
   - Not really

4. Additional Comments

   [Blank space for comments]
Appendix U: Post LARC workshop results

Have you had the opportunity to insert an IUD device since the workshop?

- Yes: 4 responses (16.00%)
- No: 21 responses (84.00%)

Total: 25 responses

Since the workshop, do you feel more prepared to insert an IUD device?

- Quite a bit: 12 responses (48.00%)
- Somewhat: 13 responses (52.00%)
- Not really: 0 responses (0.00%)

Total: 25 responses
Results (cont.)

### Has your knowledge increased in counseling patients surrounding LARC?

<table>
<thead>
<tr>
<th>Theme</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Hands-on training              | “It was great to have hands-on training.”  
“ It was a great hands-on training, I actually took an IUD out in clinic this week. The training came in handy.” |
Appendix V: LARC representative feedback

LARC Workshop Evaluation Form (CooperSurgical)

How was your experience participating in the LARC workshop at USF?

Everything went very smoothly!

What did you enjoy most about this experience?

I truly enjoyed watching the students learn how to insert Paragard. As a vendor it’s always very rewarding to teach and instruct on the correct way to insert. Breaking bad habits before they begin is crucial.

What could have made this experience better?

Honestly nothing. There was plenty of time for the training.

Comments: Jessamyn was extremely easy to work with and I truly appreciated her letting us participate in the project.
INCREASING LONG ACTING REVERSIBLE CONTRACEPTION IN

LARC representative feedback (cont.)

LARC Workshop Evaluation Form

How was your experience participating in the LARC workshop at USF?
It was excellent! Jessamyn did an amazing job organizing this training event.

What did you enjoy most about this experience?
I think having three groups of students rotating was an effective method of handling the material. I enjoy interacting with the students one on one which is sometimes a challenge in one large group.

What could have made this experience better?
Only one hitch - the room assigned for our group had a class in it so we only had a short time to set up the materials. It still worked but it would have been nice to be able to get access earlier.

Comments: I hope we can do this training again next semester!
CONTINUING EDUCATION
CERTIFICATE OF ATTENDANCE
The School of Nursing and Health Professions
Awards 4 Continuing Education Units

To: XXXX
RN License # XXXX

For Participation In: LARC Workshop
Topic: Long Acting Reversible Contraception (LARC) Hands-On Training Workshop

Speakers: Jessamyn Phillips, DNP(C), RN, PCCN
Date: 02/28/19

Margaret W. Baker, PhD, RN, FAAN, FGSA
Associate Dean for Educational Outreach, Assistant Professor
School of Nursing and Health Professions
BRN Provider No. CEP 361

This certificate must be retained by the licensee for a period of four (4) years after the course concludes.