

Adolescents' attitudes about long-acting reversible contraception:  
Exploring a youth-centered counseling approach

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**Abstract**

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**Background:** Long-acting reversible contraceptive (LARC) methods can prevent teen pregnancy yet remain underutilized by adolescents in the United States. Pediatric providers are well positioned to discuss LARC with their teen patients, but little is known about how to introduce these methods in the pediatric primary care setting. The purpose of this study was to explore attitudes and experiences related to pregnancy and contraception in a diverse population of female adolescents to inform the development of LARC counseling strategies relevant to a wide range of primary care patients.

**Methods:** Qualitative interviews were conducted with female adolescent patients at two urban school-based health centers. Questions elicited information about participants' family, school, peers, and extracurricular activities, reproductive life plan, and experiences with contraception and school health services. Interviews were audio recorded, transcribed, and coded using a combination of inductive and deductive coding to identify major themes.

**Results:** A total of 30 women (mean age 16.2 years, range 14 to 18 years) participated in interviews representing a diverse range of racial/ethnic identities. Half of the participants were sexually active, and 17% reported current or past LARC use. We identified four thematic code-families related to LARC attitudes among our participants, including (1) device-specific characteristics of IUDs and implants that are appealing or unappealing to adolescents, (2) prior exposure to information about LARC either from peers, family members, or health counseling sessions, (3) salient circumstances or experiences that may motivate a desire for effective and/or long-acting contraception, and (4) environments and social norms that influence LARC acceptability among adolescents.

**Conclusions:** This study informed the development of an adolescent-centered LARC counseling tool that can be used to elicit and address the unique factors that shape adolescent attitudes about LARC devices and facilitate patient-provider discussions. Further study is warranted to evaluate the effect of this tool on provider comfort with LARC counseling and acceptability and knowledge of LARC among adolescents and their families.

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## **DEDICATION**

This thesis is dedicated to:

My wife and best friend, Amber May,

My parents, David and Jeanne Hoopes, and

My grandmother Joan McFarland,

for their unconditional support of my educational journey.

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## **1. Introduction**

Over 60% of US high school students become sexually active before graduating. Although rates of adolescent pregnancy are decreasing in the United States, they remain much higher than in most industrialized countries, with over 750,000 adolescent pregnancies each year resulting in a teen birth rate of 27.3 per 1000 adolescent women ages 15-19.<sup>1,2</sup> The majority of these pregnancies are unintended, highlighting the importance of effective and timely contraception counseling for this population.<sup>3</sup>

Long-acting reversible contraceptive (LARC) devices, including intrauterine devices (IUDs) and contraceptive implants, are contraceptive methods with great potential to reduce unintended pregnancies among adolescents. The American Congress of Obstetricians and Gynecologists Committee on Adolescent Health Care issued committee opinions in 2007 and 2012 strongly encouraging health care providers to consider LARC devices as first-line contraceptive choice for adolescents.<sup>4,5</sup> This support was echoed by the American Academy of Pediatrics in 2014, which specifically states that “pediatricians should be able to educate adolescent patients about LARC methods.”<sup>6</sup>

In spite of this clear endorsement and a growing body of literature demonstrating safety and efficacy in adolescents, little is known about how providers should introduce and counsel adolescents about LARC. A number of studies have found that knowledge and acceptability of LARC devices are lower in adolescent patients than in adults, with teens reporting discomfort with the nature of LARC devices or fear of LARC insertion and removal procedures.<sup>7-10</sup> Studies exploring brief counseling interventions to address barriers to LARC among young women have found that presenting methods in order of effectiveness (known as tiered counseling), providing LARC devices on-site at no cost, and offering brief education sessions can lead to higher rates of

LARC uptake.<sup>7,11</sup> However, these studies have primarily focused on young women presenting to family planning clinics who are already motivated to prevent pregnancy. Females in the general adolescent population who are not actively seeking contraceptives likely differ significantly in terms of barriers and motivators to LARC use. The purpose of this study was to explore attitudes and experiences related to pregnancy and contraception in a diverse population of female adolescents to inform the development of LARC counseling strategies relevant to a wide range of primary care patients.

## **2. Methods**

We used one-on-one, in-person, semi-structured qualitative interview techniques to explore adolescent opinions and experiences related to pregnancy and contraception with an emphasis on LARC devices. We chose a school-based health center (SBHC) setting where LARC services are included within the general scope of primary care services in order to access young women with varying socioeconomic status and degrees of experiences with LARC.

### ***Sample & Procedures***

We enrolled a purposive sample of adolescent female patients of two school-based health centers in an urban setting in Washington State aged 13-19. Women who were younger than 18 were eligible to participate if they had obtained parental permission to use the SBHC for full primary care services (i.e. underaged women receiving confidential mental or reproductive health services without parental permission were ineligible).

Prior to recruitment, the research team mailed a letter to all parents/guardians of female patients who had provided permission for their children to access full services at the SBHC. This letter included information about participation and provided the caregivers the opportunity to “opt-out” their child from participating via phone or e-mail. Two parents opted their children out of participation, and neither of these young women contacted us during recruitment.

Participants were also recruited from flyers which were posted and given to registered female students upon checking-in at the SBHC. The flyers instructed potential participants to contact the primary investigator by phone or e-mail to schedule an interview appointment. Non-English speaking patients and patients with significant developmental delay that would impede participation in a qualitative interview were excluded.

We then obtained written informed consent/assent (depending on the participant's age). Full parental consent for minors was waived by the Institutional Review Board due to the sensitive nature of the subject matter and rights of minors to pursue reproductive health care without parental consent.. Investigators conducted the interviews using an interview guide which included questions about family, school, peers, and extracurricular activities as well participants' reproductive life plan, experiences with contraception and LARC devices, and experiences with their SBHC (see Appendix). Broad, open-ended questions were followed by more targeted questions to clarify responses and elucidate opinions. The interviews lasted 30-60 minutes and took place during December 2013 - January 2014. Following the interviews, participants also completed a brief demographic questionnaire eliciting age, grade level, race/ethnicity, and free or reduced lunch eligibility as a proxy for low socioeconomic status. The institutional review board at University of Washington Human Subjects Division approved the study.

### ***Analysis***

All interviews were audio recorded, transcribed, and reviewed for accuracy by interviewers. A list of *a priori* codes was developed by the primary author and modified by co-authors prior to the start of analysis. Two investigators independently used ATLAS.ti WIN 7.0 to code the data using the list of *a priori* codes and adding new codes to the codebook as themes emerged. The coders discussed and reconciled new codes in weekly meetings. Any discrepancies were resolved through discussion with a third investigator until consensus was reached on the final code book. Following the initial coding process, investigators classified codes into broader themes or code families and identified the most prevalent and most explanatory

codes within each code-family, specifically looking for quotations that were representative of or inconsistent with the codes of interest.

### **3. Results**

#### ***Sample***

Between November 2013 and December 2014, we conducted 30 interviews with registered female SBHC patients (mean age: 16.2, range 14-18 years). The sample represented a diverse group of students that mirrored the demographics of the student body, with a race/ethnicity breakdown of 37% White non-Hispanic, 23% Hispanic, 20% multi-racial (half of whom identified as Native American), 10% Black, and 10% Asian or Pacific Islander. Seventy percent of participants were receiving free/reduced lunch, a proxy for low socioeconomic status. Half of our participants reported during the interview that they were not yet sexually active, and 17% of total participants had current or prior experience using a LARC device (Table 1).

#### ***Central Themes***

We identified four thematic code-families related to LARC attitudes among our participants, including (1) device-specific characteristics of IUDs and implants that are appealing or unappealing to adolescents, (2) prior exposure to information about LARC either from peers, family members, or health counseling sessions, (3) salient circumstances or experiences that may motivate a desire for effective and/or long-acting contraception, and (4) environments that constrain or support LARC acceptability and uptake among adolescents. Tables 2-5 summarize these thematic code-families with common codes and representative quotations.

#### ***Device-specific characteristics of IUDs and Implants***

Most participants were familiar with contraceptive implants and IUDs, either through personal experiences or information from other sources. They described certain attributes as

appealing, including the longer duration of action and lower risk of weight gain associated with LARC compared to other methods. Not having to remember a daily method was appealing to a number of young women who had chosen either type of LARC, particularly those who described previous difficulties with adherence to daily oral contraceptive pills. A few participants found the copper IUD appealing because it was non-hormonal and thus would not have risks and side effects associated with hormonal methods. Many participants were attracted to the greater effectiveness of LARC methods to prevent pregnancy. Interestingly, a number of these women described prior use of oral contraceptive pills for menstrual symptoms before becoming sexually active, followed by a switch to a LARC method when they were more interested in effective pregnancy prevention.

Certain characteristics were appealing to some participants yet unappealing to others. For example, amenorrhea resulting from a hormonal IUD was perceived as a benefit to some and a drawback to others. A portion of respondents expressed concerns about not having regular periods with at least one person linking that to a fear of long-term fertility effects. Also, duration of use was perceived by some as unappealing, particularly if they reported not currently being in a romantic relationship or regularly having sex, thus desiring a more “on-demand” contraceptive method.

Characteristics of LARC devices that were more universally described as unappealing included concerns about placement and removal procedures. There were mixed opinions about the degree of discomfort with the implant placement procedure, with some describing the procedure being well-tolerated and others citing significant discomfort during and afterwards. The implant removal procedure was described by both implant users and non-users as unappealing and “scary.” Relatedly, the contraceptive implant being a foreign body was

unappealing to multiple participants, for a variety of reasons ranging from concerns of ongoing discomfort, complications, or being “gross” or “weird.” Many participants referenced potential side effects, most commonly irregular bleeding, as a significant factor that negatively influenced their attitudes about LARC and contraception in general. One participant stated that being unable to physically see a contraceptive implant made it difficult to “reassure” herself of its efficacy. Other concerns emerged related to the fact that LARC methods are inserted or controlled by providers rather than by the patient themselves, with one participant explicitly stating that she would choose a non-LARC method in order to be primarily “responsible” for it. A number of participants referenced IUDs as something specifically for “adult” or “older” women.

### ***Prior exposure to information about LARC***

Past exposures to information about LARC were strongly tied to participant’s own views and opinions about choosing a LARC for themselves, with negative reports weighing more substantially than positive ones. Participants readily shared insights about LARC they had received from others, including friends, family, or health care providers. Among the many participants with a friend or family member who had used a LARC device, few relayed positive experiences while negative anecdotes about LARC use were quite common, including placement experiences, negative side effects, and complications experienced by parents, other family members, and peers. Information about LARC devices received from peers, whether positive or negative, was particularly influential for participants considering a LARC device. Some participants had encountered prior counseling from a provider and occasionally other sources of

information such as the internet or magazines, although in those circumstances, the participants also discussed LARC with their provider.

### ***Salient or motivating circumstances***

The interviews revealed salient circumstances that might motivate an adolescent to choose a LARC device for its superior efficacy or long-acting nature including: pregnancy “scares,” experiences with pregnancy termination, exposure to teen motherhood, moving or relocation experiences, and stated desire to delay childbearing. A substantial portion of participants had experienced “pregnancy scares” and 3 (10%) disclosed a history of prior unintended pregnancy resulting in abortion or miscarriage. Others, without prompting, described their personal beliefs against abortion and reported that they would continue an unintended pregnancy if they experienced one.

Exposures to teen motherhood were also common among participants, who described observing peers, close friends and members of their families in teen parenting circumstances. While some participants commented on appealing aspects of early pregnancy or childbearing, these comments were consistently qualified with the challenges or “realities” of becoming an adolescent parent. Many shared experiences specific to teen pregnancy on social media, largely in the context of observing and reacting to a peer’s social media postings related to her pregnancy or parenting experiences. Social media-related comments described a discrepancy between the positive attention on social media for teen pregnancy and the negative reality of being a teen parent. Several participants described early pregnancy “running in their family” or recounted experiences with a sibling or other family member experiencing a teen pregnancy.

Related to the family experiences, many participants in our sample described frequent moving experiences, sometimes involving separation of family members, running away, or a family immigration history, while some also discussed plans to relocate to another region after graduation, implying a potential or past interruption in continuity of medical care. While some participants did not explicitly link this to a desire for long-acting contraception, these experiences represented potential opportunities for a provider to discuss how a patient might benefit from a longer acting method given an upcoming transition.

Finally, the interview script prompted girls to describe their reproductive life plans. All participants expressed an immediate desire to delay childbearing, and some connected this desire to an interest in long-acting contraception. Many described specific career goals they were interested in achieving prior to becoming a parent, with most requiring post-high school education.

### ***Environmental constraints and supports***

We identified a common theme of environmental constraints and supports, including the presence of social norms, that may influence adolescent acceptability of LARC devices. Parental attitudes about adolescent sexuality and contraception were discussed frequently during the interviews. Participants who described parents open and supportive of discussing teen sexual health had often had a conversation about choosing an IUD or implant with a parent. Some participants also described parental discomfort discussing teen sexuality. Participants referenced a social norm that contraceptive use implies sexual activity, not only among parents, but also peers and romantic sexual partners, despite an interest among many to use LARC and other contraception methods for non-contraceptive benefits.

Many participants described how a supportive SBHC environment directly promoted access to contraception information and services for themselves and their peers. The majority reported positive experiences, either with getting a LARC device placed or removed at the SBHC or receiving general sexual and reproductive health counseling from SBHC staff.

#### 4. Discussion

Using words and experiences of a diverse primary care sample of adolescent women, we identified discrete factors influencing adolescent attitudes about LARC. Adolescents find some characteristics of LARC appealing, such as not having to remember a daily method or a lower risk of weight gain, while other characteristics are unappealing, like irregular bleeding and procedure fear or discomfort. Young people obtain information about LARC from friends and family, whose accounts are particularly powerful when they are negative or involve a complication. Salient circumstances, such as a prior pregnancy scare, upcoming move, or post-graduate education goals, may motivate a desire for LARC, and supportive parental and school-based health center environments can influence adolescent acceptance of LARC.

Our study confirmed findings from previous studies that adolescents find many characteristics of LARC devices unappealing, particularly with regard to procedures and risk of complications.<sup>12-16</sup> Our interviews also revealed additional domains that influence an adolescent's interest in a highly effective contraception methods, providing opportunities for adolescent-centered intervention development that may be more appropriate for younger women who have never been pregnant or perceive their pregnancy risk to be low. Applying these findings to clinical practice, providers may consider the mnemonic PRIME to introduce and discuss LARC devices with patients in a manner that acknowledges the above-described factors. PRIME stands for:

- **Preferences:** Adolescents have strong views about the potential side effects of contraceptive methods. Ask about their preferences in a realistic way, acknowledging that there are side effects associated with most contraception methods

(“IUDs and implants are a kind of medical treatment, and all medical treatments have side effects. What side effects are most important for you to avoid?)

- **References:** Adolescents value experiences and opinions of peers and family members. Explore where adolescents may have heard about LARC from others in their life. Provide an opportunity to discuss negative experiences and dispel myths. (“Does anyone in your life have experience with an IUD or implant? What have you heard about that?”)
- **Information:** Adolescents need concrete and accurate information about the mechanism of LARC devices as well as placement and removal procedures. (“IUDs and implants can be in place for several years, but they can be removed by a provider at any time and do not affect your ability to get pregnant after being removed.”)
- **Motivators:** Adolescents may describe a past or current circumstance that provides an opportunity to discuss motivation to prevent unplanned pregnancy and effective methods to do so. Identify motivating circumstances and use them as platforms for discussion (“Do you know anyone who experienced an unplanned pregnancy? What was that like for them” OR “It sounds like you have some exciting career plans. How long is the training to enter that profession?)
- **Environments:** Adolescents are heavily influenced by their environments. Consider how environments such as parents, housing stability or school-based health centers may affect their access to LARC and other sexual and reproductive health services. Discuss contraception with parents as part of routine preventive care. (“Many teens may choose to begin a contraceptive method before becoming

sexually active and this does not imply risky sexual behavior.”) Support school-based health services in your community that offer comprehensive sexual and reproductive health services and state and federal policies that limit legal restrictions on adolescent access to contraception.

The components of PRIME draw from social cognitive learning theory, which describes how personal factors including preferences, beliefs, and goals interact with environmental factors such as a supportive family or school context to influence behavior, in this case, choosing a LARC device.<sup>17</sup> This approach also takes into account prior research indicating that awareness and knowledge of LARC is lower in adolescents than in adult women.<sup>7-9</sup> Providers can explore these decision-making realms during a counseling session. For examples, an upcoming move or an expressed desire to pursue post-graduate education might trigger a provider to start a conversation about LARC with patients and families during a preventive care visit. This contextual approach is consistent with adolescent contraceptive counseling principles developed by Jaccard and Levitz that should guide a contraceptive counseling protocol for adolescents as well as those by Dehlendorf which combine strategies of directive counseling with an emphasis on informed choice to ensure a shared decision making approach.<sup>18,19</sup> The approach also considers the unique position of the pediatric primary care provider as potentially the first provider to discuss LARC in a health care setting.

This study was qualitative and is subject to limitations including a small, nonrandom sample of participants living in one geographical region that may not be generalizable to other areas of the United States. However, our sample represented great diversity in race/ethnicity as well as a range of ages and experiences with sexual activity and contraception. The interview responses may have been influenced by social desirability bias, and the positionality of the

interviewers, a physician and a public health student, may have further affected the context of the interviews. However, the length of our interviews and one-on-one nature allowed for more in-depth discussions about psychosocial contexts than many qualitative studies related to contraception.

## **5. Conclusion**

Pediatricians are uniquely poised to provide education and counseling to adolescent patients and families. Adolescent patients have unique needs that require special attention to their developmental and psychosocial context. The proposed PRIME approach (Preferences, References, Information, Motivators, Environment) can be used to elicit and address the discrete factors that shape adolescent attitudes about LARC devices and facilitate patient-provider discussions. Further study is necessary to evaluate the effect of PRIME on provider comfort with LARC counseling and acceptability and knowledge of LARC among adolescents and their families.

<b>Table 1. Participant demographics</b>		
	<b>N</b>	<b>%</b>
<b>Age</b>		
Mean	16.2	
Range	14-18	
<b>Race/Ethnicity</b>		
White, Non-Hispanic	11	36.7
Hispanic/Latina	7	23.3
Multi-racial	6	20.0
Black, Non-Hispanic	3	10.0
Asian	2	6.7
Hawaii Native/Pacific Islander	1	3.3
<b>Free/reduced lunch eligible</b>		
Yes	16	53.3
No	5	16.7
Don't know/Skip	9	30
<b>Current or prior experience with LARC device</b>		
Yes	5	16.7
No	25	83.3
<b>Ever pregnant</b>		
Yes	3	10.0
No	27	90.0
<b>Total participants</b>	<b>30</b>	<b>100.0</b>

<b>Table 2. Device-specific characteristics of IUDs and Implants</b>	
<b>Appealing</b>	<b>Not having to remember a daily method (IUD and implant)</b> <i>I don't know. The IUD just seems better, you know. You get it in. You're done, and you're good. You don't have to remember, because taking pills is a hassle (16 year old depot medroxyprogesterone user)</i>
	<b>Lower risk of weight gain (IUD and implant)</b> <i>I needed something that fit me, wouldn't make me gain weight, and I could remember. The three-year [contraceptive implant] worked best. (17 year old implant user)</i>
	<b>Greater effectiveness of LARC methods (IUD and implant)</b> <i>I just like the fact that I don't really have to worry about it, and I just know that I'm good. (17 year old implant user)</i>
	<b>Duration of action (IUD and implant)</b>
<b>Varying opinions</b>	+ <i>The other ones, they don't last as long and I'd rather get the IUD because it lasts longer. (14 year old condom user)</i>
	- <i>My friend who had an implant...had it taken out...just because her boyfriend lives so far away, so for her to have that in her arm doesn't really do her any good, so she had it removed and is on the patch now or she will be when her boyfriend moves back, so that way she doesn't have this thing in her arm for so long even though it doesn't do anything for her (18 year old patch user)</i>
	<b>Amenorrhea (hormonal IUD)</b>
	+ <i>You don't get a period, which would be good because those are kind of annoying. (15 year old pill user)</i>
	- <i>But, [the IUD] kind of messes with [your period] and then you don't get it at all. And, I kind of like having it just as a friendly reminder like, Hey, you're not pregnant, by the way. That's why I did the pill. And the pill that I have has the week off (17 year old pill user)</i>
<b>Unappealing</b>	<b>Irregular bleeding (IUD and implant)</b> <i>And then, I didn't want my periods to be messed with, and that was the one concern that I had with getting an IUD (17 year old pill user)</i>
	<b>Foreign body nature (implant)</b> <i>It feels so weird and nasty. I'm just like, 'It'd stay in your bone. Ew. I'm good.... It's just really thick and tiny, but you can still feel rolling in your arm. (15 year old pill user)</i>
	<b>Placement and removal procedures (IUD and implant)</b> <i>Knowing that you have this long thing that's going to go in my arm is-- it just freak me out, so I go, 'no I'll stick with the basics.' (18 year old patch user)</i>
	<b>LARC methods are inserted or “controlled” by providers (IUD and implant)</b> <i>It is kind of scary because it's something that's in you, rather than something you can just take off. (18 year old patch user)</i>
	<b>For older women (IUD)</b> <i>Perhaps when I'm an adult woman that would make sense, but it really</i>

*wouldn't make sense now...I'm not actually having sex, so it would seem kind of silly and I have the pill which is sufficient. (15 year old pill user)*

**Invisible (implant)**

*I feel like I was just getting paranoid because I worried about having it for two years, and I felt like the hormones were going to run out or something, early. I don't know, I just felt like it was sketchy. I can't physically see it, so sometimes I'd forget it's in my arm.... I need the physical reminder to reassure myself. (18 year old patch user)*

**Table 3. Past exposure to information about LARC**

**Placement experience of peer or family member**

*My friend who has [an IUD] says that it hurts a lot... She said that it hurt a lot when they put it in, and that felt like she had been lied to. So, it might just be a difference of pain tolerance but I wouldn't really want one of those because it sounds like it may hurt. (15 year old pill user)*

**Side effect experience of peer or family member**

*She said it's actually a great experience, but she gets horrible cramps.... That she was really cranky and moody at first. Because all of her hormones and stuff. But she said it's really good. And her periods have stopped. (14 year old ring user)*

**Complication experience of peer or family member**

*Because my sister went to the doctor and [the IUD] had messed up her walls or something in her vagina. I don't know, something caused her not to have kids anymore. The same thing happened to those other women that were there, and that's a pattern. That's not supposed to happen, I don't think. Not too many great experiences with it. (17 year old implant user)*

**Counseling from a provider**

*I just heard [from the provider] that it stops periods. It's way more effective than the regular stuff. It's better because it lasts longer and you don't even know that it's there. That's about what I heard. (14 year old ring user)*

**Table 4. Factors that motivate use of long-acting contraception**

**Personal pregnancy experiences or "scares"**

*Yeah, I thought I was pregnant recently but then I found out I wasn't pregnant and so...just being concerned that I am pregnant and then finding out that I am not and then just finding like a stable birth control method or one that I actually wanted to do. (17 year old pill user)*

**Experiences or opinions about abortion**

*I lot of my friends want a kid later on in life, and some of them say, if they happen to get pregnant soon then obviously they're going to keep it. Me and my friends don't believe in abortions (18 year old patch user)*

**Exposure to teen motherhood**

*It's kind of crazy, because it's like people that I've known forever and they're younger than I am. [Teen motherhood] can either go okay or it can go*

<i>really bad, but it definitely never goes really good, just because you're at an age where so many things are going on and so many things are changing that none of this is going to stay the same. It's not going to be consistent. If you're with a guy right, you're probably not going to be with him later, because that's how it works. (18 year old patch user)</i>
<i>My friend showed me her Instagram and she's pregnant. And just within the last-- she's like five or six months. Last year, she went here and dropped out and whatever happened, now she's pregnant. And she's constantly posting pictures of her belly and she's like, "Oh, I'm so excited to meet my baby." I understand. I'm not saying be ashamed that you're pregnant, but it just seems like girls - especially young girls - get this idea that it's cute or something, and I just don't think that that's right. (18 year old patch user)</i>
<b>Relocation experiences</b>
<i>I was born here in Seattle, but then I moved to Alaska for about three years because my mom and dad were together at the time. Then after that they got a divorce so my mom decided to move us all back, and we've been living in kind of, you can call it the basement of my grandparents up until last year when we finally moved into our own house. So I've been a little all over the place. I did move out of my parents' house for a year when I was 16. I run off with who was boyfriend at the time and I lived with a friend and afterwards I came back home. (18 year old patch user)</i>
<b>Desire to delay childbearing</b>
<i>And I wanted something that I would have, since I'm graduating, I can't keep coming back to the teen health center. Something that I would have for a while and not have to worry. Because I don't want to end up accidentally getting pregnant, during my college years. (17 year old ring user)</i>

<b>Table 5. Influential environments and social norms</b>
<b>Parental openness about sexuality and contraception</b>
<i>She'd be totally fine with that. She would just say that she trusts my decision and that she thinks it's a good one to be protected. (15 year old pill user)</i>
<b>Social norm that contraceptive use implies sexual activity</b>
<i>They're just going to think that oh, she's trying to not become pregnant. So, she must be having sex. They don't know anything else about birth control, that it regulates periods. It helps acne. They just know it prevents pregnancy. They're going to assume that. (14 year old ring user)</i>
<b>Supportive school-based health care environment</b>
<i>I can just come here, make an appointment and just ask them the question and they love to just talk to me about something, like there was no rush in getting the IUD, there was no reason for me to just-- I had an appointment to get it done but I decided on making that just like a talk instead, and they were perfectly fine with that. So they're not just in any rush or anything (17 year old IUD user)</i>

## REFERENCES

1. Kost K, Henshaw SK. U . S . Teenage Pregnancies , Births and Abortions , 2008 : National Trends by Age , Race and Ethnicity. 2012;(February).
2. Hamilton BE, Martin J a, Ventura SJ. National Vital Statistics Reports Births : Preliminary Data for 2010. *Natl vital Stat reports from Centers Dis Control Prev Natl Cent Heal Stat Natl Vital Stat Syst.* 2011;60(2):1-26.
3. Finer LB, Henshaw SK. Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. *Perspect Sex Reprod Health.* 2006;38(2):90-96. <http://www.ncbi.nlm.nih.gov/pubmed/16772190>.
4. American College of Obstetricians and Gynecologists. Adolescents and Long-Acting Reversible Contraception: Implants and Intrauterine Devices. Committee Opinion No. 539. *Obstet Gynecol.* 2012;120:983-988.
5. American Congress of Obstetrics and Gynecology. Adolescents and long-acting reversible contraception: implants and intrauterine devices. Committee Opinion No. 539. *American. Obstet Gynecol.* 2012;120(539):983-988.
6. Ott M, Sucato G, Committee on Adolescence. Contraception for Adolescents. *Pediatrics.* 2014;134(4):e1244-e1256. doi:10.1542/peds.2014-2299.
7. Whitaker AK, Johnson LM, Harwood B, Chiappetta L, Creinin MD, Gold M a. Adolescent and young adult women’s knowledge of and attitudes toward the intrauterine device. *Contraception.* 2008;78(3):211-217. doi:10.1016/j.contraception.2008.04.119.
8. Bharadwaj P, Akintomide H, Brima N, Copas A, D’Souza R. Determinants of long-acting reversible contraceptive (LARC) use by adolescent girls and young women. *Eur J Contracept Reprod Health Care.* 2012;17(4):298-306. doi:10.3109/13625187.2012.675602.
9. Barrett M, Soon R, Whitaker AK, Takekawa S, Kaneshiro B. Awareness and knowledge of the intrauterine device in adolescents. *J Pediatr Adolesc Gynecol.* 2012;25(1):39-42. doi:10.1016/j.jpaga.2011.08.007.
10. Teal SB, Romer SE. Awareness of long-acting reversible contraception among teens and young adults. *J Adolesc Health.* 2013;52(4 Suppl):S35-S39. doi:10.1016/j.jadohealth.2013.01.013.
11. Mestad R, Secura G, Allsworth JE, Madden T, Zhao Q, Peipert JF. Acceptance of long-acting reversible contraceptive methods by adolescent participants in the Contraceptive CHOICE Project. *Contraception.* 2011;84(5):493-498. doi:10.1016/j.contraception.2011.03.001.

12. Potter J, Rubin SE, Sherman P. Fear of intrauterine contraception among adolescents in New York City. *Contraception*. 2014;89(5):446-450. doi:10.1016/j.contraception.2014.01.011.
13. Okpo E, Allerton L, Brechin S. “But you can”t reverse a hysterectomy!’ Perceptions of long acting reversible contraception (LARC) among young women aged 16-24 years: a qualitative study. *Public Health*. 2014;128(10):934-939. doi:10.1016/j.puhe.2014.08.012.
14. Asker C, Stokes-Lampard H, Beavan J, Wilson S. What is it about intrauterine devices that women find unacceptable? Factors that make women non-users: a qualitative study. *J Fam Plann Reprod Health Care*. 2006;32(2):89-94. doi:10.1783/147118906776276170.
15. Rose SB, Lawton B a. Impact of long-acting reversible contraception on return for repeat abortion. *Am J Obstet Gynecol*. 2012;206(1):37.e1-e6. doi:10.1016/j.ajog.2011.06.102.
16. Brown MK, Auerswald C, Eyre SL, Deardorff J, Dehlendorf C. Identifying counseling needs of nulliparous adolescent intrauterine contraceptive users: a qualitative approach. *J Adolesc Health*. 2013;52(3):293-300. doi:10.1016/j.jadohealth.2012.07.004.
17. Bandura A. Health promotion by social cognitive means. *Health Educ Behav*. 2004;31(2):143-164. doi:10.1177/1090198104263660.
18. Jaccard J, Levitz N. Counseling adolescents about contraception: towards the development of an evidence-based protocol for contraceptive counselors. *J Adolesc Health*. 2013;52(4 Suppl):S6-S13. doi:10.1016/j.jadohealth.2013.01.018.
19. Dehlendorf C, Krajewski C, Borrero S. Contraceptive counseling: best practices to ensure quality communication and enable effective contraceptive use. *Clin Obstet Gynecol*. 2014;57(4):659-673. doi:10.1097/GRF.0000000000000059.

# Appendix 1. Parent information and opt-out letter



11/6/13

Dear Parent or Guardian,

We are researchers at the University of Washington. We are working with Neighborcare Health to perform a research study. Our goal is to improve services to teenagers at school-based health centers. We will be doing the study at Chief Sealth International High School and West Seattle High School. We would like to do interviews with 30 female teens who are registered with the health center. We would also like to do an electronic survey with a larger group of 150 female teens. We want to understand how students use the school-based health center to receive sexual and reproductive health information and services. We will use this information to improve services and resources provided by school-based health centers. The study has been approved by the research review board at the University of Washington.

**We will discuss various topics during the interviews. We will ask about how teens feel about the school-based health center and about the types of information and services they think teens should receive in the school-based health center. We will ask participants to share their opinions about pregnancy prevention methods offered at the school-based health center. We will ask similar questions in the electronic survey. In the survey, we will also ask general questions about each participant's physical and mental health and specific questions about sexual health experiences.**

Examples of open-ended questions we will ask during an interview are:

- What do you think about starting a family someday?
- If you have questions about birth control, where do you go to get information?
- What do you think young women need to know about an IUD or an implant before they decide to get one?

Examples of questions we will ask in the survey are:

Have you ever thought that you might be pregnant?

- Yes
- No
- I don't know or skip this one

Do you currently have any of the following contraceptive devices?

- Mirena intrauterine device (IUD)
- Paragard Copper intrauterine device (IUD)
- Nexplanon or Implanon contraceptive implant
- I used to have an IUD or contraceptive implant, but I don't currently have one
- No, I've never had an IUD or contraceptive implant
- I don't know or skip this one

We will approach female students to participate in the study when they visit the school-based health center for any reason. We will give all female students information about the project and ask them for their written permission to participate in the interviews. We will perform the interviews immediately after school on a scheduled day. The interviews will not interfere with any school activities or classes. Each interview appointment will last up to one hour and will consist of 20 minutes to explain the interview and obtain verbal consent, 30 minutes for the actual interview, and 10 minutes for any follow-up questions. Dr. Andrea Hoopes, a pediatrician and adolescent medicine provider, and Ms. Kelly Gilmore, a public health student, will do all interviews. We will audio record the interviews. We will remove any identifying information and keep the recordings secure. We will destroy the recordings once they are transcribed.

We will ask participants to complete the electronic internet-based surveys on their own time. We will not interfere with school activities for any part of the research study. **Each survey will take about 15 minutes to complete.** At the end of the school year, we will contact each participant and ask her to complete an identical, follow-up survey to evaluate a change in responses over time. We will give a gift card to Starbucks, iTunes, or Target to each patient who participates in the study to thank her for her time. The gift cards will be valued at \$5 for an initial survey, \$5 for a follow-up survey, and \$20 for an interview.

We will keep all survey and interview responses confidential. There are four exceptions to this confidentiality:

- (1) If a participant reveals that she or another child is being abused or neglected, we will report it to Child Protective Services (CPS). If a participant reveals that she or another child was abused or neglected in the past, we may be required to report this to CPS as well.
- (2) If we are concerned that a participant may hurt herself, then we will call the Crisis Line and try to get help for her.
- (3) If a participant threatens to hurt someone else, we will contact the police.

(4) If we learn that a participant is having sex with someone who is legally too old for her, we will report this to Child Protective Services.

Participation in the study is entirely voluntary. A patient's refusal to participate will not affect the patient's care at the school-based health center in any way. The potential risks of participation in the study are minimal. The main risk is the possibility of a participant feeling uncomfortable or upset while answering some of the personal questions. She can refuse to answer any of the interview or survey questions. She can stop the interview or survey at any time. Stopping the interview or survey will not affect the patient's care in any way. There are no direct benefits to participants, however the information that we learn might help us improve school-based health centers and develop programs in the future that could help other high school students stay healthy.



At times, your daughter may talk to you to better understand your beliefs and values around these issues. We support your role as the main educator of your daughter about sexual and reproductive health. **If you have questions about the study, please contact the research team lead, Dr. Annie Hoopes, at (206) 987-0280 or via email at [annie.hoopes@seattlechildrens.org](mailto:annie.hoopes@seattlechildrens.org).**

If you are not satisfied with the response of the research team, have more questions, or want to talk with someone about your child's rights as a research participant, you should contact the Human Subjects Division at University of Washington at (206) 543-0098.

**If your daughter is interested in participating, please give the enclosed information sheet to her. She can complete the survey using the link. She can also contact the research team directly to receive information about scheduling an interview.**

**If your child is under 18 years of age and you would prefer that your child NOT participate in the interviews and/or the electronic survey, please contact Dr. Hoopes directly by phone (206) 987-0280 or e-mail at [annie.hoopes@seattlechildrens.org](mailto:annie.hoopes@seattlechildrens.org) within 10 days of receiving this letter and tell us that you would prefer that your child not do an interview, a survey, or both. Once we hear from you, we will remove your child from the recruitment process.**

Thank you for your support. We look forward to working with you.

Sincerely,

Andrea (Annie) Hoopes, MD  
Adolescent Medicine Senior Fellow  
University of Washington/Seattle Children's  
(206) 987-0280  
[annie.hoopes@seattlechildrens.org](mailto:annie.hoopes@seattlechildrens.org)

Janet Cady, ARNP  
Medical Director, School-Based Health Centers  
Neighborcare Health  
(206) 548-3008  
[janetc@neighborcare.org](mailto:janetc@neighborcare.org)

## Appendix 2. Recruitment flyer

**HEY GIRL,  
WE WANT TO KNOW HOW TO MAKE  
THE SCHOOL-BASED HEALTH CENTER  
BETTER FOR YOU.**

Tell us what you think by taking an online survey or participating in an interview after school.

Get a \$5 gift card for filling out the survey or a \$20 gift card for an interview.

**Want to schedule an interview?  
Got questions?**

Call or email Dr. Annie Hoopes  
annie.hoopes@seattlechildrens.org  
(206)987-0280

**Want to fill out a survey?**

Use the QR code below or fill one out on your computer at:

[http://J.MP/16Jljqs.](http://J.MP/16Jljqs)

You can also borrow a tablet at the school-based health center to fill out a survey during your free time before or after classes.

This study is completely confidential and optional. If you choose not to participate, your care will not be affected in any way.

You must be a student at West Seattle or Chief Sealth and registered with your school-based health center to participate. The registration (or consent) must have been signed by your parent or guardian.



## Appendix 3. Consent form

### CONSENT/ASSENT FORM

#### **Researchers:**

Dr. Andrea Hoopes  
University of Washington  
(206) 987-0280  
[annie.hoopes@seattlechildrens.org](mailto:annie.hoopes@seattlechildrens.org)

Dr. Kym Ahrens  
Seattle Children's Research Institute  
(206) 884-1031  
[kym.ahrens@seattlechildrens.org](mailto:kym.ahrens@seattlechildrens.org)

Kelly Gilmore  
University of Washington  
(206) 987-0280  
[kellyg18@uw.edu](mailto:kellyg18@uw.edu)

Dr. Laura Richardson  
Seattle Children's Research Institute  
(206) 884-7591  
[laura.richardson@seattlechildrens.org](mailto:laura.richardson@seattlechildrens.org)

Janet Cady, ARNP  
Neighborcare Health  
206-548-3008  
[janetc@neighborcare.org](mailto:janetc@neighborcare.org)

**STUDY PHONE NUMBER: 206-987-0280**

#### **What is research?**

Research is a way to learn new things and test new ideas. We are asking you if you want to be in our research study.

#### **Why are we doing this research?**

You are eligible to take part in our study because you are a female patient of the school-based health center at Chief Sealth International High School or West Seattle High School. We want to talk with people who have and have not been sexually active. The study is open to people of any sexual orientation. We don't assume anything about you.

We want to learn from you. We want to learn about any thoughts, feelings, and experiences you want to share about sexual health and birth control. We hope to talk with about 30 young women. We hope to have about 150 young women complete an online survey.

### **What would I be asked to do?**

You will be asked to participate in a confidential interview. The interviews will be conducted in the next 2-4 months. The interview will take place in a private room in the school-based health center immediately after school or during another time that is convenient for you. Each interview will last about 30 minutes. Everything you share in the interview would be confidential.

In the interview, I would ask about your thoughts and feelings about pregnancy, contraception, and the school-based health center. You could decide what you want to talk about. You could also refuse to answer any questions. I don't assume anything about you. I'm here to learn from you. Here are some examples of questions I might ask:

- What do you think about starting a family someday?
- Tell me about your experience with birth control or contraception?
- Do you have a current partner that you're having sex with?
- Tell me what you think would make the school-based health center better.

If you agree, I would record the interview. I'd tell you when I turn the recorder on and off. I might take notes during the interview. All of these materials would be stored in a locked cabinet or on a password-protected, encrypted computer.

Participation is voluntary, refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled, and you may discontinue participation at any time.

### **What are the possible risks or harms if I take part?**

You may feel uncomfortable answering some of the personal questions. You might feel upset because of memories that this interview brings up. You could refuse to answer any of my questions. You could also decide what you want to talk about. You could stop the interview at any time. Everything that you say would be kept confidential.

### **What are the possible benefits?**

There is no benefit directly to you. Some people find they like talking about their thoughts and opinions. The things we would learn from you might help us improve the school-based health centers and develop programs in the future. The programs could help other teenagers in high school stay healthy.

### **What are my choices if I *don't* take part?**

You don't have to do this interview. You can attend the school-based health center whether you say yes or no. There are no penalties if you decide not to take part, to skip questions, or to end the interview.

### **Who would see study information about me?**

We want to protect your privacy. Here is how we will do that: after the interview, we would type what you said and erase the tapes within 6 months. We would also share the results with other researchers, but we would not use your name or any other information that could identify you. All of the recordings and forms would be kept in a locked cabinet, We would keep your name separate from the information you give us. We would destroy anything that could identify you three years after our meeting.

There are four exceptions to the promise of confidentiality.

- 1) If you reveal that you or another child is being abused or neglected, we will report it to Child Protective Services (CPS). If you reveal that you or another child was abused or neglected in the past, we may be required to report this to CPS as well.
- 2) If I am concerned that you may hurt yourself, we will call the Crisis Line and try to get help for you.
- 3) If you threaten to hurt someone else, we will call the police.
- 4) If we learn that you are having sex with someone who is legally too old for you, we may report this to Child Protective Services.

In all of these cases, we will also tell your primary provider at the school-based health center, and we will urge you to tell your parents or caregiver.

### **Would I be paid or compensated for my time? Will the study cost anything?**

We would give you a gift card from your choice of iTunes, Starbucks, or Target for value of \$20 if you do the interview. The study will not cost you anything, but will require your time as described above.

### **What else do I need to know?**

If you have any questions about this research, you may talk to Dr. Andrea Hoopes or Kelly Gilmore. Our names and phone numbers are at the top of this form. If you have questions about your rights or you have a complaint about this study, you can call the University of Washington Human Subjects Division. This division oversees this study to make sure that the rights of people who take part are protected. Their number is (206) 543-0098. You don't have to give your name if you call.

---

INVESTIGATOR SIGNATURE

---

DATE

**If you agree to participate:**

The study described above has been explained to me. By signing below, I voluntarily agree to take part in this research. I have been told that I can refuse to answer any question or leave the study at any time, without penalty. I have had a chance to ask questions. I have been told that I may call the researchers if I have any questions about the research. I have been told that I may call the University of Washington Human Subjects Division if I have questions about my rights or if I have concerns or complaints about the study.

---

PARTICIPANT SIGNATURE

---

DATE



**Copies to:** Participant  
Investigator's file

## Appendix 4. Interview guide

<b>Family/school/peers/extracurricular activities</b>	
	<ul style="list-style-type: none"> <li>▪ <i>I'd like to hear more about where you grew up.</i></li> <li>▪ <i>Tell me about your family.</i></li> <li>▪ <i>What are your favorite subjects in school?</i> <ul style="list-style-type: none"> <li>○ <i>Are you involved in any school organizations? Like sports teams or clubs? I'd like to hear more about that.</i></li> </ul> </li> <li>▪ <i>What kind of things do you do outside of your school life?</i></li> <li>▪ <i>What do you think you want to do when you graduate from high school?</i> <ul style="list-style-type: none"> <li>○ <i>What do most of your friends plan on doing when they graduate from high school?</i></li> </ul> </li> </ul>
<b>Reproductive life plan</b>	
	<ul style="list-style-type: none"> <li>▪ <i>What do you think about starting a family someday?</i> <ul style="list-style-type: none"> <li>○ <i>What do you want your life to look like before you become a parent?</i></li> <li>○ <i>What are some things you would like to have in place?</i></li> <li>○ <i>When do you think the right time will be for you to have a baby?</i></li> </ul> </li> <li>▪ <i>What have your experiences been with pregnancy?</i> <ul style="list-style-type: none"> <li>○ <i>Have you ever been pregnant or thought you might be pregnant? Or do you know someone who has been pregnant in the last few years? What was that like?</i></li> </ul> </li> <li>▪ <i>What do your friends think about having a baby or starting a family?</i> <ul style="list-style-type: none"> <li>○ <i>When do most people you know have babies?</i></li> <li>○ <i>What do people your age usually do if they don't want to have a baby?</i></li> </ul> </li> </ul>
<b>Contraception</b>	
<p><i>There are lots of different kinds of birth control out there. Some, like condoms, need to be used every time you have sex. Other kinds, like birth control pills, need to be taken every day. There are also birth control methods – like a Mirena IUD or Nexplanon implant - that need to be placed by a health care provider. You can have a Mirena or Nexplanon for several years, and you don't need to remember to use it every day or every time you have sex.</i></p>	
	<ul style="list-style-type: none"> <li>▪ <i>Tell me about your experience with birth control or contraception?</i></li> <li>▪ <i>How did you decide what kind of birth control to use?</i></li> <li>▪ <i>If you have questions about birth control, where do you go to get information?</i></li> <li>▪ <i>What kinds of things make it difficult to talk to an adult about birth control?</i></li> <li>▪ <i>What kinds of things make it easier to talk about birth control?</i></li> <li>▪ <i>Do you have a current partner that you're having sex with?</i> <ul style="list-style-type: none"> <li>○ <i>What does he or she think about birth control?</i></li> </ul> </li> </ul>
<b>Long-acting reversible contraception</b>	
	<ul style="list-style-type: none"> <li>▪ <i>Tell me about what you've heard of long-acting reversible contraception devices? The two main kinds are IUDs (including the Mirena IUD or Copper Paragard IUD) and contraceptive implants (also called Nexplanon or Implanon).</i> <ul style="list-style-type: none"> <li>○ <i>Do you remember where you heard that?</i></li> <li>○ <i>Aside from preventing pregnancy, what kinds of reasons do young women have to get an IUD or implant?</i></li> </ul> </li> </ul>



	<ul style="list-style-type: none"> <li>▪ <i>What has been your own experience with IUDs or implants?</i> <ul style="list-style-type: none"> <li>○ <i>If you do not have any experience with an IUD or implant, have you have thought about getting one? What concerns have you had?</i></li> </ul> </li> <li>▪ <i>What have been your friends' experiences with IUDs or implants?</i></li> <li>▪ <i>What have you heard from other people like your friends or family members about their experiences with IUDs or implants?</i></li> <li>▪ <i>What do your parents or other family members think about IUDs or implants??</i></li> <li>▪ <i>What do you think young women need to know about an IUD or an implant before they decide to get one?</i></li> </ul>
<b>School-based health center</b>	
	<ul style="list-style-type: none"> <li>▪ <i>Why do you usually come to the school-based health center?</i></li> <li>▪ <i>Can you think of a good experience you've had in the health center? Tell me about that.</i></li> <li>▪ <i>Can you think of a bad experience you've had in the health center? Tell me about that.</i></li> <li>▪ <i>Tell me about your interactions with the health educator (name).</i></li> <li>▪ <i>What services would you like the health educator or the school-based health center to provide?</i></li> <li>▪ <i>Tell me what you think would make the school-based health center better?</i></li> </ul>

# Appendix 6. Poster presented at Society for Adolescent Health and Medicine Annual Meeting in Los Angeles, CA. March 2015.

## A QUALITATIVE STUDY OF EDUCATION AND COUNSELING FACTORS INFLUENCING LONG-ACTING REVERSIBLE CONTRACEPTION USE IN SCHOOL-BASED HEALTH CENTERS

Andrea J. Hoopes<sup>1</sup>, Kelly Gilmore<sup>1</sup>, Janet Cady<sup>1,2</sup>, Kym Ahrens<sup>1</sup>  
 1. University of Washington 2. Neighborcare Health

### BACKGROUND

- Long-acting reversible contraceptive (LARC) devices including intrauterine devices (IUDs) and contraceptive implants are safe and effective for use in adolescents
- The American Academy of Pediatrics recommends that pediatricians should be able to educate adolescent patients about LARC methods
- Little is known about how providers should introduce and counsel adolescents about LARC

### PURPOSE

- To explore attitudes and experiences related to pregnancy and contraception in a diverse population of female adolescents to inform the development of LARC counseling strategies relevant to a wide range of primary care patients

### METHODS

- Study Design and Recruitment**
- Qualitative design
  - Female patients ages 13-19 recruited from 2 school-based health centers (SBHCs) in Seattle, WA from 12/2013 through 1/2014
  - Study approved by University of Washington Human Subjects Division
- Interviews**
- Semi-structured, one-on-one interviews conducted at SBHC after school hours
  - Interviews explored participants':
    - Family, school, peers, and activities
    - Reproductive life plan
    - Contraception experiences including LARC
    - Experiences with SBHC
- Analysis**
- Transcribed interviews coded independently by two investigators using ATLAS.ti
  - Codes explored within and across interviews using thematic analysis then categorized into thematic code families until consensus was reached about significant themes

### PARTICIPANTS

Participant demographics	N	%
Mean age	16.2	(Range 14-18)
Race/Ethnicity		
White, Non-Hispanic	11	36.7
Hispanic/Latina	7	23.3
Multi-racial	6	20.0
Black, Non-Hispanic	3	10.0
Asian/Hawai Native/Pacific Islander	3	10.0
Free/reduced lunch eligible		
Yes	16	53.3
No or don't know/skip	14	46.7
Current or prior experience with LARC device		
Yes	5	16.7
No	25	83.3
Ever pregnant		
Yes	3	10.0
No	27	90.0
<b>TOTAL</b>	<b>30</b>	<b>100.0</b>

### RESULTS: MAJOR THEMES WITH REPRESENTATIVE QUOTES

DEVICE-SPECIFIC CHARACTERISTICS THAT ARE APPEALING OR UNAPPEALING

**Not having to remember a daily method (IUD and implant)**

*I don't know. The IUD just seems better, you know. You get it in. You're done, and you're good. You don't have to remember, because taking pills is a hassle.*  
-16-year-old depot medroxyprogesterone user

**Lower risk of weight gain (IUD and implant)**

*I needed something that fit me, wouldn't make me gain weight, and I could remember. The three-year [contraceptive implant] worked best.*  
-17-year-old implant user

**Duration of action (IUD and implant)**

*My friend who had an implant...had it taken out...just because her boyfriend lives so far away, so for her to have that in her arm doesn't really do her any good.*  
-18-year-old patch user

**Menstrual changes (IUD and implant)**

*But, [the IUD] kind of messes with [your period] and then you don't get it at all. And, I kind of like having it just as a friendly reminder like, Hey, you're not pregnant, by the way. That's why I did the pill. And the pill that I have has the week off.*  
-17-year-old pill user

**Foreign body (implant)**

*It feels so weird and nasty. I'm just like, 'it'd stay in your bone. Ew. I'm good... It's just really thick and tiny, but you can still feel rolling in your arm.*  
-15-year-old pill user

**Experience of peer or family member**

*My friend who has [an IUD] says that it hurts a lot... She said that it hurt a lot when they put it in, and that felt like she had been lied to. So, it might just be a difference of pain tolerance, but I wouldn't really want one of those because it sounds like it may hurt.*  
-15-year-old pill user

**Counseling from a provider**

*I just heard [from the provider] that it stops periods. It's way more effective than the regular stuff. It's better because it lasts longer and you don't even know that it's there. That's about what I heard.*  
-14-year-old ring user

**Personal pregnancy experiences or "scares"**

*Yeah, I thought I was pregnant recently but then I found out I wasn't pregnant and so...just being concerned that I am pregnant and then finding out that I am not and then just finding like a stable birth control method or one that I actually wanted to do.*  
-17 year old pill user

**Experiences or opinions about abortion**

*A lot of my friends want a kid later on in life, and some of them say, if they happen to get pregnant soon then obviously they're going to keep it. Me and my friends don't believe in abortions.*  
-18 year old patch user

**Relocation experiences or plans**

*I was born here in Seattle, but then I moved to Alaska for about three years because my mom and dad were together at the time...I did move out of my parents' house for a year when I was 16. I run off with a boyfriend at the time and I lived with a friend and afterwards I came back home.*  
-18-year-old patch user

**Desire to delay childbearing**

*And I wanted something that I would have, since I'm graduating, I can't keep coming back to the teen health center. Something that I would have for a while and not have to worry. Because I don't want to end up accidentally getting pregnant, during my college years.*  
-17-year-old ring user

**Parental openness about sexuality and contraception**

*[My mom] would be totally fine with [an IUD.] She would just say that she trusts my decision and that she thinks it's a good one to be protected.*  
-15-year-old pill user

**Social norm that contraceptive use implies sexual activity**

*They're just going to think that oh, she's trying to not become pregnant. So, she must be having sex. They don't know anything else about birth control, that it regulates periods. It helps acne. They just know it prevents pregnancy. They're going to assume that.*  
-14-year-old ring user

**Supportive school-based health care environment**

*I can just come here, make an appointment and just ask them the question and they love to just talk to me about something, like there was no rush in getting the IUD...I had an appointment to get it done but I decided on making that just like a talk instead, and they were perfectly fine with that. So they're not just in any rush or anything*  
-17-year-old IUD user

CIRCUMSTANCES THAT MAY MOTIVATE USE OF LONG-ACTING CONTRACEPTION

### SUMMARY AND CONCLUSIONS

This study identified discrete factors influencing adolescent attitudes about LARC use. These results directly informed development of a novel counseling mnemonic tool (PRIME).

**P**references: Adolescents have strong views about potential side effects of LARC. Ask about preferences in a realistic way, acknowledging that side effects can occur with most contraception

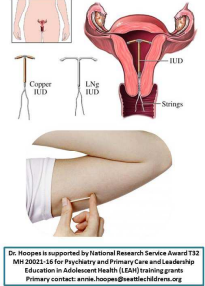
**R**eferences: Adolescents value LARC experiences and opinions of peers and family. Explore where teens may have heard about LARC and provide an opportunity to discuss negative experiences and dispel myths.

**I**nformation: Adolescents need concrete and accurate information about the mechanism of LARC devices as well as placement and removal procedures.

**M**otivators: Adolescents may describe a past or current circumstance that provides an opportunity to discuss motivation to prevent pregnancy. Identify circumstances and use them as platforms for discussion.

**E**nvironments: Adolescents are influenced by their environments. Consider how environments such as parents, housing stability or SBHCs may affect access to LARC and other reproductive health services.

Future research should evaluate the PRIME tool for feasibility in a primary care setting and effectiveness for improving acceptability and use of LARC among adolescents.



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