Original Report

# Health Care Provider Attitudes about the Safety of "Quick Start" Initiation of Long-Acting Reversible Contraception for Adolescents

Isabel A. Morgan MPSH [1,2], Lauren B. Zapata PhD, MSPH [1,*], Kathryn M. Curtis PhD [1], Maura K. Whiteman PhD [1]

[1] Division of Reproductive Health, Centers for Disease Control and Prevention, Atlanta, Georgia
[2] Oak Ridge Institute for Science and Education, Oak Ridge, Tennessee

A B S T R A C T

*Study Objective:* To identify characteristics associated with provider attitudes on the safety of "Quick Start" initiation of long-acting reversible contraception (LARC) for adolescents.
*Design, Setting, Participants, Interventions, and Main Outcome Measures:* We conducted a cross-sectional survey of providers in public-sector health centers and office-based physicians (n = 2056) during 2013-2014.
*Results:* Overall, the prevalence of considering "Quick Start" initiation of LARC for adolescents as safe was 70.9% for implants and 64.5% for intrauterine devices (IUDs). Among public-sector providers, those not trained in implant or IUD insertion had lower odds of perceiving the practice safe (adjusted odds ratio [aOR], 0.32; 95% confidence interval [CI], 0.25-0.41 for implants; aOR 0.42; 95% CI, 0.32-0.55 for IUDs), whereas those practicing at health centers that did not receive Title X funding had lower odds of perceiving the practice safe for IUDs (aOR, 0.77; 95% CI, 0.61-0.98). Among office-based physicians, lack of training in LARC insertion was associated with lower odds of perceiving "Quick Start" initiation to be safe for IUDs (aOR, 0.31; 95% CI, 0.12-0.77). Those specializing in adolescent medicine had higher odds of reporting "Quick Start" initiation of LARC as safe (implants: aOR, 2.21; 95% CI, 1.23-3.98; IUDs: aOR, 3.37; 95% CI, 1.39-8.21) compared with obstetrician-gynecologists.
*Conclusion:* Approximately two-thirds of providers considered "Quick Start" initiation of LARC for adolescents safe; however, there were differences according to provider characteristics (eg, Title X funding, training in LARC insertion, specialty). Targeted LARC insertion training and dissemination of evidence-based family planning guidance and implementation into facility and practice-level policies might increase access to "Quick Start" initiation of LARC for adolescents.
*Key Words:* "Quick Start," Same-day initiation, Long-acting reversible contraception, LARC, Intrauterine devices, IUD, Contraceptive implant, Family planning guidance, Adolescents, Teens

## Introduction

During 2011-2013, national estimates of long-acting reversible contraception (LARC) use (ie, intrauterine device [IUD], including levonorgestrel IUD [LNG-IUD] and copper IUD; and contraceptive implant) among female adolescents aged 15-19 years were lower (3.2%), compared with young adults (20-24 years, 11.1%) at risk for unintended pregnancy.[1] During 2011-2015, 5.8% of female adolescents aged 15-19 years who had ever had sexual intercourse had ever used LARC, with 2.8% having used the IUD and 3.0% having used implants.[2] Lower rates of LARC use among adolescents might be attributed to high out-of-pocket costs, inflexible clinic hours, restrictive family planning policies (eg, requiring unnecessary sexually transmitted infection [STI] testing before insertion; protocols that do not allow insertions on the day of the request), quality and content of contraceptive counseling, provider misconceptions about the appropriateness of LARC for adolescents, and lack of provider training on LARC insertion.[3–6]

"Quick Start" initiation of LARC is an important strategy to reduce barriers to access. "Quick Start," or same-day initiation, eliminates unnecessary repeat visits by allowing same-day initiation of contraception if the provider is reasonably certain that the patient is not pregnant.[7] Some studies suggest that policies and practices supporting "Quick Start" of LARC are related to increased provision of these methods.[8–10] The US Selected Practice Recommendations for Contraceptive Use recommends that IUDs and implants can be initiated at any time in women who are medically eligible, if it is reasonably certain that the woman (or adolescent) is not pregnant.[11] Most women can safely use IUDs and implants; there are few conditions for which LARC initiation is not recommended (eg, women with current purulent cervicitis, pelvic inflammatory disease, chlamydial infection, or gonococcal infection should not receive an IUD; women with breast cancer should not receive implants or LNG-IUDs).[12] For women who have already been tested for STIs according to recommendations,[13] no further testing is required, and if STI screening is needed, it can be

The authors indicate no conflicts of interest.
These data were presented in part, at the American Public Health Association Annual Meeting, Atlanta, Georgia, November 4-8, 2017.
* *Address correspondence to:* Lauren B. Zapata, PhD, MSPH, 4770 Buford Hwy, Mailstop F-74, Atlanta, GA 30341; Phone: (770) 488-6358
*E-mail address:* lzapata@cdc.gov (L.B. Zapata).

1083-3188/$ - see front matter 
https://doi.org/10.1016/j.jpag.2019.01.007

performed at the time of IUD insertion, which should not be delayed.[11] Further, "Quick Start" initiation of LARC is supported by the American Academy of Pediatrics and the American College of Obstetricians and Gynecologists.[14,15]

Although "Quick Start" of LARC in women who are medically eligible is safe, few providers offer same-day initiation of IUDs to clients.[9,16] For adolescents, providers might have concerns about LARC safety,[17–19] including concerns related to the risk of STIs.[20] LARC methods are safe for adolescents,[12] and "Quick Start" might be important for adolescents who might be unable to attend or are deterred by multiple visits. Little is known about provider attitudes toward "Quick Start" initiation of LARC among adolescents. Because provider knowledge of the safety of LARC and "Quick Start" initiation of these methods for adolescents might influence LARC provision practices, knowing provider attitudes and practices related to contraception for adolescents is key, particularly those supported by evidence-based family planning guidance. The purpose of this analysis was to determine family planning provider attitudes on the safety of "Quick Start" initiation of LARC for adolescents. Further, we aimed to identify provider characteristics associated with reporting "Quick Start" initiation of implants and IUDs for adolescents as a safe practice.

## Materials and Methods

We analyzed data from a health care provider survey designed to evaluate US family planning provider attitudes and practices related to the safety and provision of contraception for women with specific medical conditions or characteristics. We collected data for 12 months using a 33-item questionnaire mailed during 2013-2014 to a random sample of 2000 office-based physicians and 4000 public-sector health centers that provided family planning services (herein referred to as public-sector health centers). For each sampled public-sector health center, we asked that 1 provider complete the survey. We identified public-sector health centers from a Guttmacher Institute database of all publicly funded family planning centers nationwide,[10] and office-based physicians from the American Medical Association Masterfile containing information on American Medical Association member and nonmember board-certified physicians.[21] Providers were eligible to participate in the survey if they provided family planning services (ie, any service related to postponing or preventing pregnancy) to women of reproductive age at least twice per week. The sampling design and survey methodology are described in detail elsewhere.[22]

To assess provider attitudes on the safety of "Quick Start" initiation, we used responses to the following question, "For each of the following contraceptive methods, how safe do you think it is to start [an adolescent] woman on the day of her visit regardless of the timing of her menses ("Quick Start") if you are reasonably certain she is not pregnant?" Providers were asked to answer regarding the "contraceptive implant" and "IUDs (copper IUD or LNG-IUD)" for adolescents. We dichotomized provider responses into 2 groups: those reporting "Quick Start" as safe, and those not reporting "Quick Start" as safe (ie, unsafe or don't know). After excluding respondents not providing services to adolescents (n = 4) and providers who did not respond to questions about attitudes on the safety of "Quick Start" initiation of LARC for adolescents, our analytic sample consisted of 1967 providers for implants and 1939 providers for IUDs.

### *Statistical Analyses*

Data were weighted to account for nonresponse and sample selection probabilities to generate nationally representative estimates. Weighted data were analyzed using Stata 14.0 (StataCorp) using the software's survey functions to account for the complex sampling design. We estimated unweighted frequencies and weighted percentages of sample characteristics. We examined differences among provider perceptions of the safety of "Quick Start" initiation of LARC for adolescents according to sample characteristics using Rao-Scott $\chi^2$ tests, which are appropriate to use when data are obtained from a complex survey. We then performed multivariable logistic regression to identify provider characteristics associated with considering "Quick Start" initiation of LARC as safe for adolescents; models were run separately for public-sector providers and office-based physicians. Multivariable models included covariates found to be statistically significant (0.05 $\alpha$ level) in bivariate analyses, in addition to variables selected a priori on the basis of the literature (ie, Title X funding and primary clinical focus for public-sector models; and region, provider gender, and proportion of female patients of reproductive age who receive family planning services for public-sector and office-based physician models). For public-sector providers, primary clinical focus at the clinic was dichotomized as reproductive health (obstetrics/gynecology or family planning/reproductive health) or primary care (family medicine, adolescent health or pediatrics, or general health care) on the basis of survey responses. Region of practice was determined according to the clinic mailing address. We categorized states according to the US Census Bureau regions[23] and US territories according to the Health and Human Services regions. Adjusted odds ratios (aORs) are reported with 95% confidence intervals (CIs). The Centers for Disease Control and Prevention determined this project to be nonresearch, public health practice, and institutional review board approval was not needed.

## Results

Assuming that the proportion of eligible providers among those with unknown eligibility was the same as the proportion among those with known eligibility, our overall response rate was 51.2% (n = 2087). Response rates varied according to respondent type (66% for Title X-funded clinics, 48% for non-Title X-funded clinics, and 40% for office-based physicians).

### *Provider Characteristics*

Table 1 shows the sample characteristics among public-sector providers (n = 1650) and office-based physicians

**Table 1**
Sample Characteristics, US Health Care Providers Providing Family Planning Services

| Characteristic | Public-sector Providers* (n = 1650) | | Office-based Physicians (n = 406) | |
|---|---|---|---|---|
| | n† | %†,‡ | n† | %†,‡ |
| Title X funding | | | | |
| Yes | 1052 | 52.5 | – | – |
| No | 598 | 47.5 | – | – |
| Primary clinical focus§ | | | | |
| Reproductive health | 968 | 54.8 | – | – |
| Primary care | 673 | 44.6 | – | – |
| Provider occupation | | | | |
| Physician | 336 | 24.3 | 402 | 100.0 |
| Advanced clinical practitioner‖ | 1008 | 59.8 | – | – |
| Nurse | 278 | 14.1 | – | – |
| Provider specialty | | | | |
| Obstetrics and gynecology | – | – | 265 | 60.6 |
| Family medicine | – | – | 62 | 39.0 |
| Adolescent medicine | – | – | 79 | 0.34 |
| Gender | | | | |
| Male | 143 | 10.3 | 173 | 43.0 |
| Female | 1496 | 89.1 | 232 | 56.4 |
| Region | | | | |
| Northeast | 224 | 14.3 | 79 | 15.8 |
| Midwest | 305 | 18.8 | 86 | 24.2 |
| South/Mid-Atlantic | 660 | 37.2 | 137 | 33.6 |
| West | 461 | 29.7 | 104 | 26.4 |
| Trained in implant insertion | | | | |
| Yes | 853 | 50.9 | 228 | 50.6 |
| No | 721 | 44.3 | 165 | 45.5 |
| Trained in LNG-IUD or Cu-IUD insertion | | | | |
| Yes | 1025 | 62.6 | 312 | 85.2 |
| No | 583 | 34.7 | 88 | 13.5 |
| Proportion of female patients of reproductive age who receive family planning services¶ | | | | |
| 1%-24% | 165 | 11.9 | 59 | 19.5 |
| 25%-49% | 264 | 17.8 | 107 | 26.6 |
| 50% or more | 1192 | 68.4 | 237 | 52.4 |
| Attitudes on the safety of "Quick Start"# initiation of contraceptive implant for adolescents | | | | |
| Safe | 1099 | 66.2 | 304 | 71.6 |
| Unsafe or don't know | 470 | 28.8 | 94 | 26.5 |
| Attitudes on the safety of "Quick Start" initiation of IUDs for adolescents | | | | |
| Safe | 1043 | 62.9 | 275 | 64.7 |
| Unsafe or don't know | 525 | 32.0 | 123 | 33.3 |

Cu-IUD, copper intrauterine device; IUD, intrauterine device; LNG-IUD, levonorgestrel intrauterine device.
* Includes Title-X and non-Title X providers.
† Unweighted frequencies and weighted column percentages are shown.
‡ Column percentages might not add to 100% because of missing data.
§ Primary clinical focus at the clinic (reproductive health [obstetrics/gynecology or family planning/reproductive health] or primary care [family medicine, adolescent health or pediatrics, or general health care]).
‖ Includes physician assistant, nurse practitioner, and certified nurse midwife.
¶ Family planning service is defined as any service related to postponing or preventing pregnancy. This might include a medical examination related to provision of a method, contraceptive counseling, method prescription, or supply visits. A patient might receive a family planning service even if the primary purpose of the visit is not for contraception.
# "Quick Start" is defined as the immediate provision of contraception on the day of a woman's visit, if reasonably certain she is not pregnant.

(n = 406). Of public-sector providers, most practiced at health centers that receive Title X funding (52.5%), reported their primary clinical focus as reproductive health (54.8%), were advanced clinical practitioners (ie, physician assistant, nurse practitioner, certified nurse midwife; 59.8%), and were trained in implant (50.9%) and IUD (62.6%) insertions. Most office-based physicians specialized in obstetrics and gynecology (60.6%), and were trained in implant (50.6%) and IUD (85.2%) insertions.

Overall, the prevalence of considering "Quick Start" initiation of LARC for adolescents as safe was 70.9% for implants and 64.5% for IUDs (data not shown). Among public-sector providers, the prevalence of considering "Quick Start" initiation of LARC for adolescents as safe was 66.2% for implants and 62.9% for IUDs. Among office-based physicians, 71.6% and 64.7% reported "Quick Start" initiation of implants and IUDs safe, respectively.

### *Factors Associated with Considering "Quick Start" Initiation of LARC as Safe for Adolescents among Public-Sector Providers*

Factors associated with provider attitudes on the safety of "Quick Start" initiation of LARC for adolescents among public-sector providers are presented in Table 2. Providers who were not trained in LARC insertion had lower odds of reporting "Quick Start" initiation of LARC as safe for adolescents, relative to trained providers (implants: aOR 0.32;

**Table 2**
Perception of "Quick Start" Initiation of LARC as Safe for Adolescents According to Selected Characteristics, Public-Sector Providers*

| Characteristic | Contraceptive Implant | | | IUD | | |
|---|---|---|---|---|---|---|
| | Safe | | aOR† (95% CI) | Safe | | aOR‡ (95% CI) |
| | n§ | %§ | | n§ | %§ | |
| Title X funding | | | | | | |
| Yes | 714 | 71.2 | Reference | 670 | 68.1 | Reference |
| No | 385 | 68.0 | 0.80 (0.62-1.02) | 356 | 64.1 | 0.77 (0.61-0.98)‖ |
| Primary clinical focus¶ | | | | | | |
| Reproductive health | 699 | 75.3 | Reference | 665 | 73.5 | Reference |
| Primary care | 398 | 62.7 | 0.84 (0.65-1.09) | 360 | 57.4 | 0.67 (0.52-0.85)‖ |
| Provider occupation | | | | | | |
| Physician | 234 | 72.4 | Reference | 219 | 69.7 | Reference |
| Advanced clinical practitioner# | 720 | 73.0 | 0.81 (0.59-1.12) | 681 | 69.8 | 0.83 (0.60-1.15) |
| Nurse | 129 | 50.0 | 0.64 (0.43-0.96)‖ | 113 | 44.9 | 0.63 (0.40-0.97)‖ |
| Trained in implant insertion | | | | | | |
| Yes | 683 | 82.7 | Reference | – | – | – |
| No | 377 | 54.3 | 0.32 (0.25-0.41)‖ | – | – | – |
| Trained in LNG-IUD or Cu-IUD insertion | | | | | | |
| Yes | – | – | – | 753 | 76.5 | Reference |
| No | – | – | – | 256 | 46.8 | 0.42 (0.32-0.55)‖ |
| Proportion of female patients of reproductive age who receive family planning services** | | | | | | |
| 1–24% | 93 | 61.0 | 0.88 (0.61-1.26) | 80 | 55.2 | 0.75 (0.51-1.09) |
| 25–49% | 155 | 61.2 | 0.76 (0.57-1.03) | 138 | 55.7 | 0.66 (0.49-0.88)‖ |
| ≥50% | 836 | 73.3 | Reference | 797 | 71.1 | Reference |

aOR, adjusted odds ratio; CI, confidence interval; Cu-IUD, copper intrauterine device; IUD, intrauterine device; LNG-IUD, levonorgestrel intrauterine device.
* Includes Title-X and non-Title X providers.
† Adjusted for implant insertion training, provider occupation, and variables selected a priori including Title X funding, primary clinical focus, region, provider gender, and proportion of female patients of reproductive age who receive family planning services.
‡ Adjusted for IUD insertion training, provider occupation, and variables selected a priori including Title X funding status, primary clinical focus, region, provider gender, and proportion of female patients of reproductive age who receive family planning services.
§ Unweighted frequencies and weighted percentages are shown.
‖ $P < .05$.
¶ Primary clinical focus at the clinic (reproductive health [obstetrics/gynecology or family planning/reproductive health] or primary care [family medicine, adolescent health or pediatrics, or general health care]).
# Includes physician assistant, nurse practitioner, and certified nurse midwife.
** Family planning service is defined as any service related to postponing or preventing pregnancy. This might include a medical examination related to provision of a method, contraceptive counseling, method prescription, or supply visits. A patient might receive a family planning service even if the primary purpose of the visit is not for contraception.

**Table 3**
Perception of "Quick Start" Initiation of LARC as Safe for Adolescents According to Selected Characteristics, Office-Based Physicians

| Characteristic | Contraceptive Implant | | | IUD | | |
|---|---|---|---|---|---|---|
| | Safe | | aOR* (95% CI) | Safe | | aOR† (95% CI) |
| | n‡ | %‡ | | n‡ | %‡ | |
| Physician specialty | | | | | | |
| Obstetrics and gynecology | 196 | 74.8 | Reference | 180 | 68.7 | Reference |
| Family medicine | 42 | 70.0 | 1.39 (0.68-2.82) | 37 | 61.7 | 1.26 (0.65-2.44) |
| Adolescent medicine | 66 | 86.8 | 2.21 (1.23-3.98)§ | 57 | 76.0 | 3.37 (1.39-8.21)§ |
| Trained in implant insertion | | | | | | |
| Yes | 182 | 77.7 | Reference | – | – | – |
| No | 114 | 69.5 | 0.67 (0.36-1.28) | – | – | – |
| Trained in LNG-IUD or Cu-IUD insertion | | | | | | |
| Yes | – | – | – | 216 | 69.7 | Reference |
| No | – | – | – | 55 | 43.0 | 0.31 (0.12-0.77)§ |
| Proportion of female patients of reproductive age who receive family planning services‖ | | | | | | |
| 1%-24% | 40 | 61.1 | 0.44 (0.20-0.97)§ | 38 | 54.1 | 0.62 (0.28-1.35) |
| 25%-49% | 75 | 72.3 | 0.64 (0.32-1.26) | 68 | 70.3 | 1.09 (0.57-2.10) |
| 50% or more | 187 | 78.3 | Reference | 166 | 68.6 | Reference |

aOR, adjusted odds ratio; CI, confidence interval; Cu-IUD, copper intrauterine device; IUD, intrauterine device; LARC, long-acting reversible contraception; LNG-IUD, levonorgestrel intrauterine device.
* Adjusted for implant insertion training and variables selected a priori including physician specialty, region, provider gender, and proportion of female patients of reproductive age who receive family planning services.
† Adjusted for IUD insertion training and variables selected a priori including physician specialty, region, provider gender, and proportion of female patients of reproductive age who receive family planning services.
‡ Unweighted frequencies and weighted percentages are shown.
§ $P < .05$.
‖ Family planning service is defined as any service related to postponing or preventing pregnancy. This might include a medical examination related to provision of a method, contraceptive counseling, method prescription, or supply visits. A patient might receive a family planning service even if the primary purpose of the visit is not for contraception.

95% CI, 0.25-0.41; IUDs: aOR, 0.42; 95% CI, 0.32-0.55). Relative to providers in Title X-funded clinics, those who practiced at health centers that did not receive Title X funding had lower odds of reporting "Quick Start" initiation of IUDs as safe (aOR, 0.77; 95% CI, 0.61-0.98), as did providers who reported their primary clinical focus as primary care vs reproductive health (aOR, 0.67; 95% CI, 0.52-0.85). Compared with physicians, nurses had lower odds of reporting "Quick Start" initiation as safe for implants (aOR, 0.64; 95% CI, 0.43-0.96) and IUDs (aOR, 0.63; 95% CI, 0.40-0.97). Having a moderate (25%-49%) vs large (≥50%) proportion of female patients of reproductive age receiving family planning services was associated with lower odds of perceiving "Quick Start" initiation of IUDs as safe (aOR, 0.66; 95% CI, 0.49-0.88).

*Factors Associated with Considering "Quick Start" Initiation of LARC as Safe for Adolescents among Office-Based Physicians*

Table 3 shows the factors associated with perceiving "Quick Start" initiation of LARC as safe among office-based physicians. Compared with physicians who specialized in obstetrics and gynecology, providers who specialized in adolescent medicine had higher odds of reporting "Quick Start" initiation of LARC as safe (implant: aOR, 2.21; 95% CI, 1.23-3.98; IUD: 3.37; 95% CI, 1.39-8.21). In addition, providers not trained compared with those trained in IUD insertion had lower odds of reporting "Quick Start" initiation of IUDs as safe for adolescents (aOR, 0.31; 95% CI, 0.12-0.77). Compared with providers who had a large (≥50%) proportion of female patients of reproductive age receiving family planning services, providers with a small (1%-24%) proportion had lower odds of perceiving "Quick Start" initiation of implants as safe (aOR, 0.44; 95% CI, 0.20-0.97).

## Discussion

In our analysis, approximately two-thirds of providers considered "Quick Start" initiation of LARC for adolescents as safe. Among public-sector providers and office-based physicians there was variation in reporting "Quick Start" of LARC for adolescents as safe according to provider, practice, and clinic characteristics, which might indicate opportunities for targeted trainings or adoption of same-day initiation guidance into protocols.

Across provider groups, those not trained in implant or IUD insertion less frequently reported "Quick Start" initiation of LARC for adolescents as safe. Hands-on clinical insertion training of implants and IUDs likely includes education about eligible candidates for LARC methods and when they can be safely initiated.[24,25] For women starting LARC methods, the US Selected Practice Recommendations for Contraceptive Use guidelines state that the benefits of starting at the time of the initial health care visit likely exceed any risks, and providers should consider starting a method at any time, when reasonably certain the patient is not pregnant.[11] The American College of Obstetricians and Gynecologists and the American Academy of Pediatrics also support the safety of LARC for adolescents and recommend "Quick Start" initiation for most adolescents.[14,15] Nonetheless, despite existing evidence that receipt of didactic and insertion training is more commonly received among obstetrician-gynecologists than clinicians with other specialties (eg, adolescent medicine, pediatrics, family medicine),[26] we found obstetrician-gynecologists had lower odds of considering "Quick Start" initiation of LARC as safe for adolescents compared with adolescent medicine providers. These data might suggest that although obstetrician-gynecologists are more often trained in LARC insertion, more specific training on the safety of "Quick Start" initiation of LARC methods for adolescents might be needed. Offering LARC insertion training in medical residencies and continuing education opportunities for practicing clinicians might improve provider LARC insertion competencies.

Public-sector providers who reported their primary clinical focus as primary care had lower odds of reporting "Quick Start" initiation of IUDs as safe for adolescents than those who reported reproductive health. These findings parallel data on the availability and provision of IUDs in publicly funded health centers, with reproductive health-focused clinics being more likely than primary care-focused clinics to provide IUDs to adolescents.[10] Similarly, public-sector providers that practiced in clinics that did not receive Title X funding had lower odds of reporting "Quick Start" initiation of IUDs as safe, compared with providers who practiced in Title X-funded clinics; this difference was observed for attitudes on "Quick Start" of implants for adolescents, but was not statistically significant. In a qualitative study of structural barriers to LARC provision at community health centers, no LARC providers reported that they routinely performed same-day insertions, often because of scheduling challenges, shorter appointment times, provider's knowledge and comfort with contraceptive counseling, protocol to schedule preinsertion counseling visits, and required STI testing before insertions, which might not be necessary.[27] Further, provider-level variability in contraceptive counseling was influenced by the focus of the community health center; providers at primary care-focused clinics addressed routine preventive care and disease management concerns in 1 visit.[27] These findings might suggest challenges to providing family planning in the context of providing the breadth of primary care services. Developing and implementing targeted training and protocols for primary care clinics might address these challenges.

Among public-sector providers, nurses had the lowest frequency of considering "Quick Start" initiation of LARC for adolescents as safe. Because nurses constitute a large and critical part of the health care workforce who often provide contraceptive counseling, particularly in the public sector,[28] training nurses on best practices in contraceptive counseling and family planning provision might increase awareness about the safety and effectiveness of LARC methods for adolescents and "Quick Start" initiation. An intervention for integrating LARC counseling into routine contraceptive care showed a significant increase in LARC counseling, along with a significant increase in LARC uptake and a significant reduction in unintended pregnancy rates.[29] Targeted efforts to disseminate family planning

guidance[11,12] to provider groups and training all clinic staff on best contraceptive practices (including "Quick Start") might increase same-day initiation of LARC methods.

Overall, most providers in our sample considered "Quick Start" initiation of LARC safe for adolescents. Although these data are encouraging, facility and practice-level barriers might inhibit provision of LARC. In one study, facility policies permitting same-day LARC initiation were the most significant predictor of LARC placements by advanced practice registered nurses during the past year.[8] In an analysis of survey data collected from 1221 fellows of the American College of Obstetricians and Gynecologists, only 13.1% of providers reported offering same-day IUD insertion, and those who offered same-day IUD insertion provided significantly more IUDs during the previous year than those who required multiple clinic visits.[9] From a survey of generalist pediatricians in the Massachusetts Pediatric Society, 10.6% recommended the IUD as a preferred choice of contraception for adolescents.[30] These data suggest that although providers might understand that LARC methods and "Quick Start" initiation of these methods are safe for adolescents, providers might hesitate to counsel adolescents on LARC as a contraceptive option if they are restricted by practice policies, which might influence "Quick Start" provision of LARC to adolescents.

A few limitations should be considered when interpreting our findings. Data were self-reported and might be subject to social desirability bias. Second, the survey question that ascertained attitudes about the safety of "Quick Start" of IUDs asked about IUDs generally; thus, we were unable to determine if providers had differential concerns for different IUD types (copper or hormonal). In addition, the survey question did not differentiate between nulliparous and parous adolescents; although IUDs are safe for all adolescents, regardless of parity,[12] some providers might have concerns about the safety of IUDs for nulliparous adolescents. Finally, the survey did not collect data on "Quick Start" provision of LARC to adolescents.

Despite these limitations, these data provide estimates of attitudes on safety of "Quick Start" initiation of LARC for adolescents among a national sample of public-sector providers and office-based physicians and highlight some areas for training and interventions. Addressing provider concerns regarding LARC safety is critical, because of evidence on the influence of provider perceptions and counseling on patient decision-making.[31] Unnecessary repeat visits can yield significant consequences for contraceptive access, particularly for vulnerable populations, including adolescents. Delaying insertion of LARC might result in decreased motivation and uptake of contraception, increasing the risk of an unintended pregnancy.[32]

*Conclusions*

Although the practice of "Quick Start" of LARC for those who are medically eligible and the safety of LARC for adolescents is supported by US family planning guidance and professional organizations, only about two-thirds of providers reported that they consider "Quick Start" of LARC safe for adolescents. Targeted education, LARC insertion and removal training, and dissemination of US family planning guidance to health care providers, program managers, and policy makers in public-sector clinics and private physician offices might increase access to "Quick Start" of LARC for adolescents.

## Acknowledgments

This project was supported in part by an appointment to the Research Participation Program at the Centers for Disease Control and Prevention administered by the Oak Ridge Institute for Science and Education, United States through an interagency agreement between the US Department of Energy and the Centers for Disease Control and Prevention. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention or the Oak Ridge Institute for Science and Education.

## References

1. Pazol K, Daniels K, Romero L, et al: Trends in long-acting reversible contraception use in adolescents and young adults: new estimates accounting for sexual experience. J Adolesc Health 2016; 59:438
2. Abma JC, Martinez GM: Sexual activity and contraceptive use among teenagers in the United States, 2011-2015. Natl Health Stat Report 2017;1
3. Greenberg KB, Makino KK, Coles MS: Factors associated with provision of long-acting reversible contraception among adolescent health care providers. J Adolesc Health 2013; 52:372
4. Kavanaugh ML, Jerman J, Ethier K, et al: Meeting the contraceptive needs of teens and young adults: youth-friendly and long-acting reversible contraceptive services in U.S. family planning facilities. J Adolesc Health 2013; 52:284
5. Hillard PJ: What is LARC? And why does it matter for adolescents and young adults? J Adolesc Health 2013; 52(4 suppl):S1
6. Berlan ED, Pritt NM, Norris AH: Pediatricians' attitudes and beliefs about long-acting reversible contraceptives influence counseling. J Pediatr Adolesc Gynecol 2017; 30:47
7. Westhoff C, Kerns J, Morroni C, et al: Quick start: novel oral contraceptive initiation method. Contraception 2002; 66:141
8. Kelly PJ, Cheng AL, Carlson K, et al: Advanced practice registered nurses and long-acting reversible contraception. J Midwifery Womens Health 2017; 62:190
9. Luchowski AT, Anderson BL, Power ML, et al: Obstetrician-gynecologists and contraception: long-acting reversible contraception practices and education. Contraception 2014; 89:578
10. Zolna MR, Frost JJ: Publicly Funded Family Planning Clinics in 2015: Patterns and Trends in Service Delivery Practices and Protocols. New York, NY, Guttmacher Institute, 2016. Available: https://www.guttmacher.org/report/publicly-funded-family-planning-clinic-survey-2015.
11. Curtis KM, Jatlaoui TC, Tepper NK, et al: U.S. Selected practice recommendations for contraceptive use, 2016. MMWR Recomm Rep 2016; 65:1
12. Curtis KM, Tepper NK, Jatlaoui TC, et al: U.S. Medical eligibility criteria for contraceptive use, 2016. MMWR Recomm Rep 2016; 65:1
13. Workowski KA, Bolan GA, Centers for Disease Control and Prevention: Sexually transmitted diseases treatment guidelines, 2015. MMWR Recomm Rep 2015; 64:1
14. American College of Obstetricians and Gynecologists, ACOG Committee Opinion No. 735: Adolescents and Long-Acting Reversible Contraception: Implants and Intrauterine Devices. Obstet Gynecol 2018; 131:e130
15. Ott MA, Sucato GS: Committee on Adolescents: Contraception for adolescents. Pediatrics 2014; 134:e1257
16. Biggs MA, Arons A, Turner R, et al: Same-day LARC insertion attitudes and practices. Contraception 2013; 88:629
17. Harper CC, Blum M, de Bocanegra HT, et al: Challenges in translating evidence to practice: the provision of intrauterine contraception. Obstet Gynecol 2008; 111:1359
18. Kohn JE, Hacker JG, Rousselle MA, et al: Knowledge and likelihood to recommend intrauterine devices for adolescents among school-based health center providers. J Adolesc Health 2012; 51:319
19. Rubin SE, Davis K, McKee MD: New york city physicians' views of providing long-acting reversible contraception to adolescents. Ann Fam Med 2013; 11:130
20. Rubin SE, Campos G, Markens S: Primary care physicians' concerns may affect adolescents' access to intrauterine contraception. J Prim Care Community Health 2013; 4:216
21. AMA Physician Masterfile. Available:. https://www.ama-assn.org/life-career/ama-physician-masterfile. Accessed February 25, 2018.
22. Simmons KB, Zapata L, Curtis KM: Health care provider perceptions of the safety of IUDs for women with HIV. Perspect Sex Reprod Health 2018; 50:67

23. U.S. Department of Commerce. United States Census Bureau: Census Regions and Divisions of the United States. Available: https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf; 2018.
24. Goodman S, Hendlish SK, Benedict C, et al: Increasing intrauterine contraception use by reducing barriers to post-abortal and interval insertion. Contraception 2008; 78:136
25. Harper CC, Henderson JT, Raine TR, et al: Evidence-based IUD practice: family physicians and obstetrician-gynecologists. Fam Med 2012; 44:637
26. Davis SA, Braykov NP, Lathrop E, et al: Familiarity with long-acting reversible contraceptives among obstetrics and gynecology, family medicine, and pediatrics residents: results of a 2015 national survey and implications for contraceptive provision for adolescents. J Pediatr Adolesc Gynecol 2018; 31:40
27. Janiak E, Clark J, Bartz D, et al: Barriers and pathways to providing long-acting reversible contraceptives in Massachusetts community health centers: a qualitative exploration. Perspect Sex Reprod Health 2018; 50:111
28. Landry DJ, Wei J, Frost JJ: Public and private providers' involvement in improving their patients' contraceptive use. Contraception 2008; 78:42
29. Harper CC, Rocca CH, Thompson KM, et al: Reductions in pregnancy rates in the USA with long-acting reversible contraception: a cluster randomised trial. Lancet 2015; 386:562
30. Wilson SF, Strohsnitter W, Baecher-Lind L: Practices and perceptions among pediatricians regarding adolescent contraception with emphasis on intrauterine contraception. J Pediatr Adolesc Gynecol 2013; 26:281
31. Dehlendorf C, Krajewski C, Borrero S: Contraceptive counseling: best practices to ensure quality communication and enable effective contraceptive use. Clin Obstet Gynecol 2014; 57:659
32. Tocce K, Sheeder J, Python J, et al: Long acting reversible contraception in postpartum adolescents: early initiation of etonogestrel implant is superior to IUDs in the outpatient setting. J Pediatr Adolesc Gynecol 2012; 25:59