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Barriers and Facilitators to Health Center Implementation of Evidence-Based Clinical Practices in Adolescent Reproductive Health Services

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Abstract

Purpose—Despite the substantial evidence supporting the guidelines for the provision of reproductive health services for adolescents, research points to a persistent gap in their translation into health care practice. This study examines barriers and facilitators that health centers experience when implementing evidence-based clinical practices for adolescent reproductive health services and discusses strategies to address identified barriers.

Methods—Semistructured interviews were conducted with 85 leaders and staff of 30 health centers in Alabama, Georgia, Massachusetts, North Carolina, South Carolina, Pennsylvania, and Texas. Interview data were analyzed for emergent themes following a grounded theory approach.

Results—Data analysis revealed that certain factors at health system and community levels influenced health centers' efforts to implement evidence-based clinical practices for adolescent reproductive health care. In particular, support from health center leadership, communication between leadership and staff, and staff attitudes and beliefs were reported as factors that facilitated the implementation of new practices.

Conclusions—Health center efforts to implement new practice guidelines should include efforts to build the capacity of health center leadership to mobilize staff and resources to ensure that new practices are implemented consistently and with quality.

Keywords

Reproductive health; Implementation science; Contraception; Long-acting reversible contraception; Teen pregnancy

Facilitating adolescent access to evidence-based reproductive health care services and long-acting reversible contraception (LARC) is imperative for reducing disparities in teen birth rates and the overall teen birth rate in the United States [1-4]. Although structural and

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policy-level changes are needed to address the social determinants of teen pregnancy, changes at the health systems level are also necessary to improve adolescent access to and utilization of reproductive health care and LARC. Various professional organizations and governmental agencies including the Centers for Disease Control and Prevention, the Office of Population Affairs, the Office of Adolescent Health, American Academy of Pediatrics, and the American Congress of Obstetricians and Gynecologists—among others— have established evidence-based clinical practices (EBCPs) and guidelines regarding the provision of reproductive health care for adolescents. Broadly, these EBCPs are intended to facilitate adolescent access to and utilization of reproductive health care services and LARC methods and include ensuring availability of a wide range of contraceptive methods at reduced or no cost, offering same-day provision of LARC or hormonal contraception, implementing systems and practices to ensure that the reproductive and sexual health needs of adolescents are addressed in a timely manner and at every opportunity, having staff trained in adolescent development and how to address the needs of adolescents of diverse backgrounds, ensuring protection of adolescent privacy and confidentiality, providing services at locations and hours convenient to adolescents, and having adolescent-friendly waiting areas and examination rooms with age-appropriate educational materials [5-20].

Despite the evidence base informing EBCPs, research points to a persistent gap in the translation of this evidence into adolescent health care practice [4,21-24]. A recent examination of a nationally representative sample of health centers found that fewer than half of the centers regularly counseled adolescent patients on LARC methods [4]. In addition, only 54% reported offering extended and/or weekend hours, and 64% indicated they accepted same-day or walk-in appointments for adolescents [4].

Additional research is warranted to better understand the reasons behind the ongoing gap between evidence and practice in the delivery of reproductive health and contraceptive services for adolescents. The present study aims to address this gap through a qualitative, exploratory investigation of barriers and facilitators to health center implementation of EPCPs in adolecent reproductive health care.

This study was carried out as part of work done through a national teen pregnancy prevention demonstration project funded through the Centers for Disease Control and Prevention, Office of Adolescent Health, and Office of Population Affairs. Briefly, nine state-and community-based organizations and five national organizations were funded to implement communitywide initiatives to reduce teen pregnancy by a minimum of 10% over 5 years in 10 intervention communities with the highest rates of teen pregnancy. These communities are located in Alabama, Connecticut, Georgia, Massachusetts, Pennsylvania, New York, North Carolina, South Carolina, and Texas.

A key component of these community-wide initiatives involves building the capacity of health centers to provide accessible and evidence-based reproductive health care services for adolescents. In 2010, a total of 51 health centers were engaged in the community-wide initiatives. Participating health centers encompassed a diverse mix of agency types including federally qualified health centers (FQHCs), county health departments, community health centers, hospital-based providers, and school-based health centers and practice settings

including obstetrics and gynecology (OB/GYN), family planning, pediatric, and primary care, among others. Approximately two thirds (67%) of participating health centers reported receiving Title X funding to provide reproductive health and family planning services.

Over time, participating health centers are expected to adopt a set of EBCPs to support provision of reproductive health care services and LARC for adolescents. These practices were identified through a review and synthesis of existing agency recommendations and scientific literature [25,26].

The present study was carried out as part of a formative research project to explore the process of health center implementation of EBCPs in adolescent reproductive health care. The specific questions the study aims to address are the following: What factors facilitate consistent and quality implementation of EBCPs at health centers? What are the barriers or challenges that impede health center implementation of EBCPs? and What strategies, if any, are health center leadership and staff adopting to address and overcome identified barriers?

Findings from this study can help researchers and practitioners identify facilitators to the implementation of EBCPs that may be replicated across communities and practice settings and develop innovative and effective strategies to address common barriers to implementation. This study is particularly relevant and timely given the recent passing of the Affordable Care Act (ACA) and its provisions to provide contraceptive coverage and counseling without copayment. As health care organizations adapt to the rapidly changing health care landscape, questions related to their adoption and implementation of new practices and systems will become increasingly important to address to develop strategies to facilitate a smoother implementation process. Ultimately, findings from this study may support a more timely translation of research into practice in the provision of reproductive health care for adolescents.

Methods

A purposive sample of health centers was selected to participate in this formative research. Centers were selected based on agency type and practice setting, to ensure a diverse sample. Representatives of prospective health centers were contacted by the study authors to assess the willingness and availability of center leadership and staff to participate in the research. A total of 30 health centers across communities agreed to participate in the study and included 10 FQHCs, 10 centers operated through county health departments, four community health centers, two university/school-based health centers, two OB/GYN practices, and two family planning clinics.

Semistructured face-to-face interviews were conducted during July 2012–October 2013 with 85 staff members across participating health centers. Interview participants were also recruited to fill a purposive sample to ensure diverse representation of clinical and nonclinical staff and leadership. Table 1 summarizes interview participants by their roles.

Participants were asked about their experiences mobilizing to implement EBCPs in adolescent reproductive health care at their respective centers and any barriers or facilitators

to implementation. Where barriers in EBCP implementation were identified, participants were asked what strategies (if any) the health center was adopting to address them.

Qualitative data were analyzed using Atlas.ti software. Data were coded to identify emergent themes in accordance with the principles of grounded theory analysis [27]. As described by Strauss and Corbin (2008), grounded theory is an inductive approach to data analysis that "allows the theory to emerge from the data" [ibid.]. In accordance with this approach, interview transcripts were examined line-by-line and assigned "open codes" by a team of three coders. The analysis involved an iterative process of coding, checking consistency (reliability) in coding, modifying codes as necessary, and recoding. Related codes were identified and then linked to form broader analytic categories or "axial codes." These categories were organized according to how they addressed the study's overarching research questions. Discrepancies in codes were identified and resolved through consensus among members of the coding team. The final intercoder reliability was 94%.

This study was reviewed and approved by the Western Institutional Review Board (WIRB study protocol #1131670).

Results

Grounded theory analysis revealed that barriers and facilitators at both the health systems and community levels significantly influenced the efforts of health center leadership and staff to implement EBCPs in adolescent reproductive health care. Where interview participants noted strategies for addressing barriers to practice implementation, these are described as well. See Table 2 for a summary of the most commonly reported barriers and facilitators, as well as strategies for addressing identified barriers.

Health systems–level factors

Health center leadership and staff indicated that factors operating at the health systems level —those factors relating to the day-to-day operations of the health center—had a direct and immediate impact on implementation of EBCPs. These factors included support from health center leadership, communication between leadership and staff, staff attitudes and beliefs, the use of data for continuous quality improvement (CQI), and staff knowledge of billing and coding for LARC methods.

Leadership support—Support and buy-in from both clinical and nonclinical leadership were cited by interview participants from 21 health centers across all communities as important for health center implementation of EBCPs. Staff characterized leadership "buy-in" as having leaders who were supportive of timely implementation of EBCPs, willing and able to mobilize staff and resources to facilitate EBCP implementation, and who provided guidance and oversight of the implementation process. In particular, clinical staff noted the importance of the medical director in supporting and overseeing practice implementation and emphasized the necessity of clinical and administrative leadership working together to authorize and oversee health systems changes.

Where interview participants described timely implementation of EBCPs, leadership clearly articulated why and how adolescent reproductive health and pregnancy prevention was a priority for their clinics and larger communities:

> I certainly feel that [our health center] can play a lead role around accessibility of services to teens, I think that's our main function. And how we can be more user friendly in regards to getting teens not only into services, but continuing on birth control. Because I feel like teens need that extra support. So, I see us being an advocate for teens in that [regard]. But also an advocate in the community—because it is a community-wide issue.
>
> Senior administrator, hospital system

Among the health centers where low buy-in was reported for senior administrators, staff also reported more difficulties in implementation of EBCPs.

Communication between leadership and staff—Apart from being supportive of adolescent reproductive health care and pregnancy prevention, senior administrative and clinical leadership also described the importance of communicating this support to health center staff. Leaders described the need to develop systems of communication with health center staff (e.g., monthly or bimonthly meetings) to delineate roles and responsibilities in EBCP implementation and to review clinic data and assess progress in practice implementation. Senior leaders also noted the value of concise and strategic "messaging" to communicate their support to health center staff.

Senior clinical leadership in particular described the necessity of setting expectations for clinical staff and ensuring that adolescent reproductive health care is prioritized:

> We have always done best practices here…. If it is ACOG's recommendations we do something, or AAP's…. We do not lag behind…. From the beginning, [clinical staff] come in knowing that you may have personal views about anything that we do here, but when you are here, you are going to work under our standing orders, our clinical protocols…. everything is scripted out…. And they then understand that they are working under our licenses, and they do what we are expecting them to do, or they need to find a different home…. That is the message that [we] set from the beginning.
>
> Senior clinical administrator, health department

At 14 other health centers, leadership support for adolescent reproductive health care and pregnancy prevention was not communicated to all health center staff. At these centers, leadership expressed their commitment to timely implementation of EBCPs; however, staff at the same health centers were often unaware of this support, indicating that they were unsure whether they had the approval of senior leadership to proceed with changing existing clinic practices. Where this disconnect between leadership and staff was identified, leaders pledged to develop better communication systems, so that they were aware of and able to authorize changes to existing practices.

Staff attitudes and beliefs—Clinical and nonclinical leadership representing 16 health centers reported a general discomfort among providers—particularly pediatric providers—to address the reproductive health care needs of adolescents. Leadership at health centers in southern states of Alabama, Georgia, and South Carolina ascribed this discomfort in large part to some providers' religious beliefs—which they described as being widely prevalent across the "Bible belt" of the country. As one senior administrator explained,

> It's been tough to get our pediatric providers on board, not only because they have not received that training [in LARC insertion or contraceptive counseling], but also because our pediatric Medical Director has certain religious beliefs that prevent her —for whatever reasons—from providing sexual health counseling or contraceptives for adolescents…. And so that has been very challenging for us to overcome.
>
> Senior administrator, FQHC

In other health centers, pediatric clinical staff acknowledged that their lack of training in LARC insertion for adolescents was a principal reason for their reluctance to provide this service to adolescents. At these centers, leadership reported that they were either planning or in the process of providing this training.

Beyond specific training in LARC insertion, clinical leadership also noted the importance of developing strategies to secure general buy-in and support for adolescent reproductive health care among pediatric providers. In one community in Pennsylvania, clinical leaders reported engaging a pediatric "champion" in the community who is willing to support their efforts in engaging and providing training for pediatricians in the provision of reproductive health care for adolescents. As these leaders explained, working with a committed provider champion who is able to mentor and train clinical staff across health centers may be an effective strategy for securing provider buy-in and support for adolescent pregnancy prevention efforts and facilitating more rapid and widespread implementation of EBCPs.

Data use for continuous quality improvement—Administrative and clinical leadership emphasized the importance of regularly accessing and using health center data (including patient medical records and finance data) to monitor the impact of changes to policies, procedures, and practices in adolescent reproductive health care. Regular data review was strongly emphasized in five health departments in North and South Carolina. Within these health departments, staff and leadership met on a monthly basis to review data to monitor the progress and impact of EBCP implementation. One senior administrator summarized the importance of using data to hold staff and leadership "accountable":

> We're going to get the results…. we're committed to that. And we'll keep up with them. We'll do our own evaluation and hold ourselves accountable and do all those things to prove that we're on track. And we have to have the data. We have to have the mechanisms in place to collect it, utilize it, share it, and communicate expectations and hold people accountable and all those things.
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> Senior administrator, county health department

Leaders also explained that beyond CQI and accountability, regular data review was also helpful for motivating staff, allowing them to see the impact of their efforts reflected in the data.

However, it should also be noted that regular use and monitoring of data for CQI was more commonly reported as a barrier for health centers, with 13 health centers across Alabama, Georgia, Massachusetts, South Carolina, and Texas reporting challenges related to data monitoring and reporting. Where challenges were reported in regards to use of data for CQI, this was often related to health centers lacking (1) electronic medical records; (2) user-friendly data systems; (3) information technology staff willing and able to pull and report data when needed; or (4) some combination of the above elements.

Billing and coding for long-acting reversible contraception and reproductive health services—These interviews were conducted before the implementation of the ACA; therefore, the law's provision for contraceptive coverage without copay had not yet gone into effect. Nevertheless, staff and leadership across approximately half of all health centers expressed concern regarding the implementation of the law and acknowledged their lack of knowledge regarding reimbursement for both LARC methods and contraceptive counseling. These concerns were primarily expressed by leaders and staff of FQHCs and private practice sites that did not receive Title X funding. At these sites, clinical staff acknowledged the expense of LARC methods and the delays and challenges they had encountered in being reimbursed for them. In some cases, clinical staff indicated that these challenges had made them reluctant to counsel adolescents on LARC methods:

> There's been a lot of talk here about how tough it is to get reimbursed for both counseling and the [LARC] method itself. The reimbursement is a fraction of what it costs us. So yes, I'd be lying if I said that [the reimbursement] did not cross my mind every time I counsel someone on LARC.
>
> Nurse practitioner, private group practice

However, both leadership and clinical staff acknowledged that they were aware of ACA's provision of contraceptive coverage and counseling and indicated that the law would provide a significant means of addressing financial barriers to providing these services. However, leadership also pointed to the importance of both clinical and billing staff receiving training on ACA and billing and coding practices to ensure maximal reimbursement and the fiscal sustainability of LARC and reproductive health services.

Community factors

Initially, this study sought to examine only those factors at the health system level that may influence a health center's implementation of EBCPs in adolescent reproductive health care. However, analysis of interview data revealed that factors operating at the community level also indirectly influenced the efforts of health center leadership and staff to implement new practices.

Support from community leaders—As with support from health center leadership, support from community leaders was also reported as an important facilitator to health

center implementation of EBCPs. In three communities, the mayors had publicly pledged their support and community resources to facilitate adolescent pregnancy prevention efforts. In these communities, administrative leadership indicated that this public support facilitated EBCP implementation through (1) increased community knowledge of health center reproductive health services—and concomitant utilization of services and (2) increasing the motivation and buy-in of health center staff for systems changes and implementation of EBCPs. As one clinic director explained,

> And, I think working in the community where you not only have local clinics, but you also have youth-serving programs and the Mayor's Office all wanting to put in a hand. I think it makes everything a lot easier when you know you're not fighting this fight on your own. And not just that, but you're on the frontlines of this fight, and it's a struggle for a good cause that people understand, and you're all on board together. Just knowing that—that goes a long way.
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> Mid-level administrator, community health center

Staff perception of community support—In addition to knowledge of community leader support, health center staff perception of support from community members in general was also an important factor in EBCP implementation. In Year 1 of the community-wide initiatives, needs assessments were conducted to collect data on community resources and support for adolescent pregnancy prevention. Across all communities, needs assessment data indicated that parents, adolescents, and other community stakeholders had high levels of support for adolescent pregnancy prevention efforts. However, in some communities, these data were not shared with health center leadership or clinical staff. As a result, staff were uncertain if parents or other stakeholders were supportive of their efforts to address adolescent reproductive health and pregnancy prevention. In communities where needs assessment data were shared, however, leadership and staff indicated that this data helped to motivate them, as they were able to link their work in improving adolescent reproductive health with community needs and priorities. As one senior administrator elaborated,

> In the first year we surveyed [our community], and [we shared] information [from that survey] that overwhelmingly people do want their children [to] receive this [reproductive health care] information. So when we share [these] data from the survey…. I think that makes a big impression, and opens doors.
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> Senior administrator and provider, county health department

Community knowledge of services available—Health center leaders and staff in all communities reported that community knowledge of services available was important for both facilitating and sustaining changes in provision of reproductive health care for adolescents. Leadership and staff representing 10 health centers in Georgia, North Carolina, South Carolina, and Texas described a general lack of community awareness of reproductive health services available for adolescents, which leaders indicated adversely impacted changes to health systems policies and practices. In one community in North Carolina, a health center was forced to close an adolescent clinic, because of the clinic being underutilized. However, in other communities, health centers utilized novel strategies to

improve community awareness of services available. In Pennsylvania and Alabama, health center staff reported participating and advertising their adolescent health services in community outreach events, including health fairs. In Massachusetts, one health center covered its outside windows with large, block lettering describing its hours of operation, and provision of free or low-cost sexual health and contraceptive services for adolescents. Since putting up these window displays, staff reported increases in the number of adolescent walk-in appointments.

Relationship between community health centers.—Administrative leadership across all communities reported that the relationship between community health centers could be either a significant impediment or facilitator to implementation of EBCPs. Leadership from 14 health centers in communities in Georgia, Massachusetts, North Carolina, and Pennsylvania described strong collaboration between health centers. Within these communities, administrative and clinical leadership alike noted that this collaboration supported health systems changes through health centers sharing resources and strategies for implementing EBCPs. Senior administrative leadership in Massachusetts attributed the collaboration between health centers in large part to state policy, which provides for health insurance coverage for state residents. As one clinic director explained, given the number of insured adolescent patients in their community, “there is more than enough business to go around.” The director went on to elaborate that underlying the health centers’ collaboration was a “shared understanding” regarding their responsibility to serving and improving the health of all community members, including adolescents.

In Texas, where Title X funding has been rejected by the state legislature, senior administrators reported a more competitive relationship between health centers. As they explained, it was often difficult to collaborate with other area health centers, when they were often competing with the same centers for funding for reproductive health care. As one Medical Director explained,

> For [us] to bring all the clinical partners at the same table together is going to be useless. It’s going to be a waste of time because everybody’s going to hold their cards tight. Nobody’s going to really discuss the issues or what we need to do to make anything better. Because nobody wants to slip and let anybody know what their new plans are. Because they might lose patients. And if they lose patients, they lose funding.
>
> Medical Director, university-based health center

Discussion

Despite the broad base of evidence supporting practice guidelines and recommendations in adolescent reproductive health care, implementation of these practices remains inconsistent across health centers in the United States. This study contributes to our understanding of the barriers and facilitators that may influence adoption and implementation of EBCPs across geographic regions and diverse practice settings.

Specifically, this research reveals how various factors at the health systems level—including health center leadership, communication between leadership and staff, staff attitudes and beliefs, use of data for CQI, and billing and coding for reproductive health care—work together to influence implementation of new practices in adolescent reproductive health.

This study also underscores the reality that health centers do not operate in a vacuum and that community-level factors— including support from community leadership, awareness of services offered, and collaboration between health centers—also impact EBCP implementation. Understanding the interactions between community and health systems factors is important to take into consideration when developing strategies to facilitate implementation of new clinical practices.

Findings from this research point to the importance of building health center "readiness" to implement EBCPs. This readiness includes buy-in from leadership and staff for provision of LARC and reproductive health care for adolescents; the identification of all possible sources of funding—including the ACA and third party payers—to ensure fiscal sustainability of LARC and reproductive health services; staff training on the ACA and billing and coding to ensure maximal reimbursement; and the availability of efficient and user-friendly systems and processes to regularly collect and use data for CQI. Moreover, this research also underscores the value of skills building for health center leaders to mobilize staff and resources to execute and monitor systems-wide changes leading to the adoption of new practices. Finally, building community awareness and support of health center services constitutes another valuable component of EBCP implementation, as this support can be a significant motivator for health center staff as they implement new clinical practices. In addition, community support can facilitate greater collaboration and sharing of knowledge and resources across community health centers—which may in turn better position health centers to implement and sustain changes to clinical practices.

Beyond factors at the health systems and community levels, study findings also point to the role of federal and state policies in facilitating translation of evidence into practice in adolescent reproductive health care. The ACA and its provision of contraceptive coverage and counseling without copay represent an important step in addressing financial barriers to adolescent access to hormonal and LARC methods. However, in spite of this federal policy, restrictive state laws can severely curtail health center access to resources necessary to provide evidence-based reproductive health care to their adolescent patients. In states such as Texas, the result has been what one leader described as both a "crisis and injustice" for adolescent patients for whom access to contraceptive counseling, LARC, and other services could vastly improve their overall health and quality of life.

Given that this research was exploratory and carried out among a sample of health centers participating in a national demonstration project, the findings should not be interpreted as being representative. Nevertheless, the research makes an important contribution to our understanding of the process by which health center leadership and staff mobilize to adopt new practices in adolescent sexual and reproductive health—and the factors that can either facilitate or impede this process. Future research may examine the links between barriers and facilitators and outcomes in EBCP implementation [28]. Through identifying and

understanding these factors, researchers and practitioners alike are better equipped to develop strategies to facilitate a smooth and timely translation of evidence into adolescent reproductive health care practice.

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References

[1]. Tyler CP, Warner L, Gavin L, Barfield W. Receipt of reproductive health services among sexually experienced persons aged 15–19 years—National Survey of Family Growth, United States, 2006–2010. MMWR Surveill Summ 2014;63:89–98.

[2]. Hall KS, Moreau C, Trussell J. Continuing social disparities despite upward trends in sexual and reproductive health service use among young women in the United States. Contraception 2012;86:681–6. [PubMed: 22762707]

[3]. Hall KS, Moreau C, Trussell J. Determinants of and disparities in reproductive health service use among adolescent and young adult women in the United States, 2002–2008. Am J Pub Health 2012;102:359–67. [PubMed: 22390451]

[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; 52:284–92. [PubMed: 23298980]

[5]. Society for Adolescent Medicine. Confidential health care for adolescents: Position paper of the society for adolescent medicine. J Adolesc Health 2004;35:160–7. [PubMed: 15298005]

[6]. Reddy D, Fleming R, Swain C. Effect of mandatory parental notification on adolescent girls' use of sexual health services. JAMA 2002;288:710–4. [PubMed: 12169074]

[7]. Society for Adolescent Medicine. Access to health care for adolescents and young adults: Position paper of the Society for Adolescent Medicine. J Adolesc Health 2004;35:342–4. [PubMed: 15481116]

[8]. American College of Obstetricians and Gynecologists. The initial reproductive health visit. Obstet Gynecol 2010;116:240–3. Committee Opinion No. 460. [PubMed: 20567198]

[9]. Society for Adolescent Health and Medicine. Sexual and Reproductive Health Care: A Position Paper of the Society for Adolescent Health and Medicine. J Adolesc Health 2014;54:491–6. [PubMed: 24656535]

[10]. American Medical Association. Guidelines for adolescent preventive services (GAPS): Recommendations monograph. Chicago, IL: American Medical Association; 1997.

[11]. Hagan JF, Shaw JS, Duncan PM. Bright futures: Guidelines for health supervision of infants, children, and adolescents. Elk Grove Village, IL: American Academy of Pediatrics; 2008.

[12]. Rosen DS, Elster A, Hedberg V, Paperny D. Clinical preventive services for adolescents: Position paper of the Society for Adolescent Medicine. J Adolesc Health 1997;21:203–14. [PubMed: 9283943]

[13]. Society for Adolescent Health and Medicine. Confidential health care for adolescents: Position paper of the society for adolescent health and medicine. J Adolesc Health 2004;35:160–7. [PubMed: 15298005]

[14]. Society for Adolescent Health and Medicine. Access to health care for adolescents and young adults: Position paper of the Society for Adolescent Health and Medicine. J Adolesc Health 2004;35:342–4. [PubMed: 15481116]

[15]. American College of Obstetricians and Gynecologists. Guidelines for adolescent health care. Washington DC: ACOG; 2011.

[16]. Curtis KM. US medical eligibility criteria for contraceptive use, 2010. Atlanta, GA: Department of Health and Human Services, Centers for Dis-ease Control and Prevention; 2010.

[17]. Centers for Disease Control and Prevention. STD treatment guidelines. MMWR 2010;59.

[18]. American Academy of Pediatrics. Contraception for adolescents. Pediatrics 2014;134:e1244–56. [PubMed: 25266430]

[19]. American Congress of Obstetricians and Gynecologists. Adolescents and long-acting reversible contraception: Implants and intrauterine devices. Committee opinion no. 539. Obstet Gynecol 2012;120:983–8. [PubMed: 22996129]

[20]. Gavin L, Moskosky S, Carter M, et al. Providing quality family planning services: Recommendations of CDC and the US office of population affairs. MMWR Recomm Rep 2014;63:1–54.

[21]. National Academy of Sciences. Adolescent health services: Missing opportunities. Washington, D.C: National Academies Press; 2008.

[22]. Burstein G, Lowry R, Klein J, Santelli J. Missed opportunities for sexually transmitted diseases, human immunodeficiency virus, and pregnancy preention services during adolescent health supervision visits. Pediatrics 2003; 111:996. [PubMed: 12728079]

[23]. Hoover K, Tao G. Missed opportunities for chlamydia screening of young women in the United States. Obstet Gynecol 2008;111:1097. [PubMed: 18448741]

[24]. Hock- Long L, Herceg-Baron R, Cassidy A, et al. Access to adolescent reproductive health services: Financial and structural barriers to care. Perspect Sex Reprod Health 2004;35:144–7.

[25]. Tyler C, Romero L, Hallum-Montes R, et al. Translating adolescent contraceptive and reproductive health research into clinical best practice; 2015 (pre-print submitted to Journal of Adolescent Health 5 2015).

[26]. Romero L, Middleton D, Mueller T, et al. Improving the implementation of evidence-based clinical practices in adolescent reproductive health care services. J Adolesc Health 2015;57:488–95. [PubMed: 26381918]

[27]. Strauss A, Corbin J. Basics of qualitative research: Techniques and procedures for developing grounded theory. Thousand Oaks, CA: Sage; 2008.

[28]. Romero L, Olaiya O, Hallum-Montes R, et al. (Forthcoming) Improving health center implementation of evidence-based clinical practices to increase access and utilization of youth-friendly reproductive health services. J Adolesc Health.

IMPLICATIONS AND CONTRIBUTION

This study identifies key barriers and facilitators that influence health centers in their implementation of evidence-based clinical practices in adolescent reproductive health care—and strategies for addressing barriers. In doing so, this study may facilitate more timely translation of research to practice in adolescent reproductive health care.

Table 1.

Summary of interview participants, by roles and responsibilities within the health center

Role	n
Senior administrator, nonclinical (e.g., CEO, executive director)	22
Senior administrator, clinical (e.g., medical director)	6
Mid-level administrator (e.g., clinic director/manager)	4
Mid-level administrator/clinician (dual role)	14
Clinician (e.g., physician, nurse practitioner)	20
Clinical support staff (e.g., medical assistants)	11
Care coordinators/social workers	5
Other administrative staff (e.g., clerical, billing staff)	3
Total	85

Table 2.

Summary of barriers, facilitators, and strategies for implementation of evidence-based clinical practices in reproductive health services for adolescents, as reported by study participants

Health system factors	Barriers	Facilitators	Strategies for addressing identified barriers
Support of health center leadership	Reported as a barrier by four health centers included in the study. Characterized by lack of support from health center leadership (either clinical, nonclinical, or both), and/or lack of system of communication between leadership and staff.	Reported as a facilitator by 17 health centers. Characterized by support from both clinical and nonclinical leadership, clear articulation of goals/ objectives re: adoption of EBCPs/ improvement efforts and clear communication with staff.	Provide support to build leaders' capacity to mobilize staff and resources to execute large-scale systems improvement, ("leading for improvement"). Work with leaders/ staff to develop mechanism for regular communication.
Communication between health center leadership and staff	Reported as a barrier by 14 health centers. Characterized by a lack of regular, frequent communication between health center leaders and staff implementing changes "on the ground." Staff often do not know if they have the support/ approval of leaders to authorize changes to practice.	Reported as a facilitator by four health centers. Health center leadership is engaged and meets regularly with staff to develop strategies to facilitate adoption of EBCPs and CQI.	Provide support for leaders in developing regular system of communication with staff. Leaders develop strategic internal messaging to mobilize staff around adolescent sexual health and to convey expectations/goals regarding adoption of EBCPs. Communication between leaders/staff should include regular sharing of data to assess progress and identify opportunities for improvement (CQI).
Staff attitudes and beliefs	Reported as a barrier by 16 health centers. Characterized by a lack of "buy-in" from physicians (especially pediatricians).	Reported as a facilitator by four health centers. Characterized by strong support from medical director, who conveyed expectation that other clinical staff also support adoption of EBCPs in adolescent sexual health care.	Develop policies and procedures that support consistent delivery of care. Leaders ensure that staff know roles/ responsibilities in adopting/ implementing new practices and achieving goals/outcomes.
Data use for CQI	Reported as a barrier by 13 health centers. Characterized by a lack of systems/processes for collecting and reporting data for improvement efforts.	Reported as a facilitator by five health centers (all health departments). Characterized by regular collection and examination of data to monitor progress against a baseline, and to identify opportunities for improvement.	Establish performance measures and benchmarks as indicators of progress in achieving outcomes. Develop systems to regularly collect and monitor performance measure data. Leaders and staff meet regularly to review data for performance management and CQI.
Billing and coding for LARC and reproductive health services	Reported as a barrier by 14 health centers, most of which were non Title X-funded FQHCs or private practice. Characterized by general lack of knowledge regarding funding available for LARC methods; inaccurate coding and billing result in minimal reimbursement for services.	Reported as a facilitator by seven health centers. Characterized by multiple funding sources for contraceptive and reproductive health services for adolescents, and accurate and consistent billing and coding practices to ensure maximum reimbursement for provision of services.	Provide training for clinical and billing staff on billing and coding, along with new policies regarding coverage of contraceptive methods. Develop strategies and quality control measures to ensure that staff are consistently and accurately coding to maximize billing and reimbursement.
Community factors	**Barriers**	**Facilitators**	**Strategies for Addressing Barriers**
Support from community leadership	Reported as a barrier by eight health centers. Characterized by lack of support from community leaders.	Reported as a facilitator by five health centers. Characterized by strong, publicly expressed support from community leaders.	Identify and engage community "champions" who are willing and able to speak to the importance of teen pregnancy prevention for the larger communitydand the role of the health center(s) in preventing unintended teen pregnancy. Ensure that health center staff are aware of support from community leaders.
Perception of community support	Reported as a barrier by 13 health centers. Health center staff perceive negative community attitudes toward goals/objectives of initiative.	Reported as a facilitator by 12 health centers. Health center staff recognize high level of community support for their efforts; this perception motivates staff and facilitates buy-in from add'l staff.	Conduct community-wide surveys of parents and other stakeholders to assess community-wide support of project. Share findings with health center leadership and staff. Often communities have higher levels of support for initiative goals than staff may perceive.

Community knowledge of services available	Reported as a barrier by 10 health centers. Health center leadership/ staff indicate that parents and youth are unaware of health center location, hours, or services; consequently, services are underutilized.	Reported as a facilitator by eight health centers. Community members are aware of health center location, hours, and sexual health services provided to adolescents. Health center is easily accessible by public transportation. Services are well utilized.	Create formal linkages between health centers and youth-serving organizations to refer and navigate sexually active adolescents to care. Engage in outreach and advertising efforts (including social media) to increase awareness and support for health center services, hours, and cost (especially adolescent sexual health services).
Relationship between community health centers	Reported as a barrier by five health centers. Characterized by lack of communication/ collaboration between health centers, and a general perception that health centers are competing for patients. May be associated with state cuts to funding for family planning services.	Reported as a facilitator by 14 health centers. Characterized by regular meetings between health center representatives, and collaboration between health centers in working toward initiative goals/objectives.	Establish shared community and health center goals for reducing teen pregnancy that include individual commitments from each health center partner. Facilitate collaboration through regular meetings or other systems of communication between community health center representatives. Collaboration may be easier in communities/states with funding support for family planning services.

CQI = continuous quality improvement; EBCP = evidence-based clinical practices; FQHC = federally qualified health center; LARC = long-acting reversible contraception.