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Correlates of Sexual and Reproductive Health Discussions During Preventive Visits: Findings From a National Sample of U.S. Adolescents

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Abstract

Purpose: This study examines characteristics of healthcare delivery, providers, and adolescents associated with provider-adolescent discussions about sexual and reproductive health (SRH) during preventive visits.

Methods: Data were from a 2019 national internet survey of U.S. adolescents ages 11–17 years and their parents. Adolescents who had a preventive visit in the past 2 years (n = 853) were asked whether their provider discussed each of eight SRH topics at that visit: puberty, safe dating, gender identity, sexual orientation, whether or not to have sex, sexually transmitted infections including human immunodeficiency virus, birth control methods, and where to get SRH services. Eight multivariable logistic regression models were examined (one for each SRH topic as the outcome),

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with each model including modifiable healthcare delivery and provider characteristics, adolescent beliefs, behaviors, and demographic characteristics as potential correlates.

Results: Provider-adolescent discussions about SRH topics at the last preventive visit were positively associated with face-to-face screening about sexual activity for all eight topics (range of adjusted odds ratios [AORs] = 3.40–9.61), having time alone with the adolescent during that visit (seven topics; AORs = 1.87–3.87), and ever having communicated about confidentiality with adolescents (two topics; AORs = 1.88–2.19) and with parents (one topic; AOR = 2.73). Adolescents' perception that a topic was important to discuss with their provider was associated with provider-adolescent discussions about seven topics (AORs = 2.34–5.46).

Conclusions: Findings that provider-adolescent discussions about SRH during preventive visits discussions about sexual were associated with modifiable practices including time alone between providers and adolescents and reproductive health. and screening about sexual activity can inform efforts to improve the delivery of adolescent SRH services within primary care.

Keywords

Adolescent health; Primary care; Health services; Sexual and reproductive health; Confidentiality

Clinical guidelines from professional organizations recommend that adolescents have regular preventive visits during which they receive confidential services including age-appropriate discussions about sexual and reproductive health (SRH) [1–4]. Provider-adolescent discussions about SRH are a key element of quality care [5]. Adolescent preventive visits present an important opportunity to promote SRH through screening, education, and counseling on topics including puberty, sexual orientation, gender identity, dating relationships, sexual intercourse, prevention of pregnancy and sexually trans [2,6,7]. Educating adolescents and parents about confidentiality and ensuring time alone between adolescents and their providers may facilitate provider-adolescent discussions about sensitive SRH topics [5,8].

However, there are missed opportunities for adolescents to receive recommended screening, education, and counseling regarding SRH [9–12]. In our 2019 national internet survey with a sample of 11–17 year olds, more than four in five adolescents had had a preventive visit in the past 2 years [13]. Yet only about half of those youth reported that their provider discussed the topic of puberty during their last preventive visit, and less than one third reported that their provider discussed any other SRH topic during that visit. Discussions about SRH topics (other than puberty) were particularly uncommon among 11–14 year olds, ranging from 8% to 15% [13].

Previous research has identified potential individual- and systems-level barriers and facilitators to confidential discussions about certain SRH topics with adolescents. Employing data from a 2016 national internet survey with 13–26 year olds addressing clinical preventive services broadly, Santelli et al. [10] found three modifiable characteristics of healthcare delivery positively associated with discussion about STIs/HIV at a last healthcare visit: ever discussing confidentiality with a provider, completing a health screener during that visit, and having at least 30 minutes with the provider during that visit. Young

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people's attitudes regarding the importance of discussing STIs/HIV and their involvement in health risk behaviors were also associated with having had a discussion about STIs/HIV [10]. Recent qualitative research with primary care providers highlights specific aspects of healthcare delivery—including time alone with adolescents during clinic visits, routinized SRH screening procedures, and adequate time for dialog during visits—that providers consider as key facilitators of SRH discussions with adolescent patients [14,15]. However, there is a lack of population-based data, particularly with younger adolescents, that identify barriers and facilitators to provider-adolescent discussions about a range of important SRH topics (in addition to STIs/HIV).

In this study, we examine characteristics of healthcare delivery, providers, and adolescents associated with provider-adolescent discussions about specific SRH topics at preventive visits, utilizing data from a 2019 national internet survey with 11- to 17-year-old adolescents and their parents. We broaden the scope of SRH discussion topics that are typically assessed in population-based research (e.g., STIs/HIV, birth control methods) to include topics that are developmentally important particularly during early adolescence (i.e., puberty, safe dating, sexual orientation, gender identity). Our goal is two-fold, namely to (1) identify modifiable healthcare delivery and provider characteristics as targets for primary care systems improvement efforts; and (2) describe adolescent characteristics associated with discussing SRH topics, to inform intervention implementation.

Methods

Data source and sample

This analysis was part of the Confidential Adolescent Sexual Health services study that included a national internet survey with a sample of 11- to 17-year-old adolescents and their parents. Details regarding this sample and sampling methods have been described previously [13]. Briefly, the survey was implemented using Ipsos' KnowledgePanel, an online panel that employs list-assisted, random-digit dialing and address-based sampling to obtain a probability-based sample of U.S. households [16]. Panel members who were the parent/guardian of an 11- to 17-year-old adolescent and could read English or Spanish were eligible to participate, and we asked eligible parents to allow their 11–17 years old to participate. Parents with multiple 11- to 17-year-old adolescents were asked questions about their adolescent with the most recent birthday, and this adolescent became eligible for participation. Before beginning their respective surveys, parents provided consent for themselves and their adolescent, and adolescents provided assent. Both parents and adolescents were asked to complete their surveys in private. Parents received standard KnowledgePanel incentives [16] plus a small bonus for completing the survey (equivalent to $5 USD).

The final sample included 1,005 parent-adolescent dyads, which represents a 61.4% response rate based on American Association for Public Opinion Research formula 4 [17]. The sample was weighted to represent the noninstitutionalized U.S. adolescent population with regard to age, sex, race/ethnicity, census region, metropolitan status, household income, and language proficiency. Institutional Review Boards at the University of Minnesota and Columbia University approved the study.

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The analytic sample the present analysis includes 853 parent-adolescent dyads (84.8% of respondents) in which the adolescent had a preventive visit in the last 2 years. We used a 2-year timeframe to align with the previously mentioned 2016 national online survey of youth about clinical preventive services [10] and because not all professional organizations recommend annual preventive visits.

Measures

We developed adolescent and parent survey instruments based on the literature, existing care guidelines, and our prior research [2,5,8,10]. Details regarding instrument development are described elsewhere [13].

Outcome variables.—The adolescent survey asked whether the adolescent's provider had discussed each of eight SRH topics with them at their last preventive visit: (1) normal body changes during adolescence (i.e., puberty); (2) safe dating; (3) gender identity; (4) sexual orientation; (5) whether or not to have sex; (6) STIs/HIV; (7) methods of birth control; and (8) where to get SRH services. Response options were "yes," "no," and "I do not remember." For this analysis, we contrasted "yes" responses with "no" and "I do not remember' responses.

Independent variables.—The adolescent survey asked about characteristics of the adolescent's last preventive visit including whether a health screener was completed, whether the adolescent had time alone with their provider, face-to-face screening about adolescent sexual activity, and length of time with provider. Parallel items on parent and adolescent surveys assessed whether a provider had ever communicated about confidentiality of adolescent care. The adolescent survey included a question about the number of years the adolescent had seen their regular provider. Distributions and response options for each of these measures are included in Table 1. Provider-adolescent relationship quality was measured using a 5-item scale ($\alpha = .89$) assessing whether adolescents receive enough information from their provider, whether they trust information from their provider, whether their provider spends enough time with them, whether their provider treats them supportively, and their overall satisfaction with their healthcare.

The adolescent survey also asked about the adolescent's perceived importance of talking with a provider about each SRH topic noted previously. Item response options were a 4-point scale ranging from "not at all important" to "very important." We dichotomized each item, categorizing adolescents who selected "very important" or "moderately important" as perceiving the topic was important.

The adolescent survey also asked about their use of alcohol or tobacco in the past 30 days, their sexual orientation, and whether they had ever had oral, vaginal, or anal sex. Adolescents self-reported demographic characteristics including age, sex, race, and ethnicity. Ipsos provided information on respondents' residence (metropolitan vs. nonmetropolitan areas) and household income.

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Statistical analysis

We used multivariable logistic regression models to identify independent predictors of provider-adolescent discussion about SRH topics. We examined eight separate models, one for each SRH discussion topic as the outcome, with each model including modifiable characteristics of healthcare delivery, providers, and adolescents described above. Each model also included adolescent age, race/ethnicity, sex, residence, and household income. To examine whether associations between time alone with a provider and discussion of SRH topics differed by adolescent age, we conducted an additional set of analyses which added an interaction term including age and time alone to each multivariable model. Significance level was considered to be $p < .05$. Analyses were conducted using the Complex Samples add-on in SPSS version 25 and weighted to yield national estimates.

Results

Table 1 includes descriptors of the study sample. Adolescents self-identified as non-Hispanic white (52%), non-Hispanic black (13%), Hispanic (24%), and other non-Hispanic racial groups including American Indian, Asian, and Hawaiian/Pacific Islander (10%). About half of adolescents were female (49%), 91% identified as heterosexual, and 17.5% lived in nonmetropolitan areas. Less than 1 in 10 adolescents reported ever having had sex (8%) or using tobacco or alcohol in the past 30 days (9%). Nearly one third were from households with annual incomes less than $50,000 (30.5%) and 28% were from households with annual incomes of more than $125,000. Seven in 10 adolescents reported that they did not have time alone with a provider at their last preventive visit (69%). Only 25% noted that they had been asked about their sexual activity at that visit. One third of adolescents (32%) and parents (33%) reported that a provider had ever communicated with them about confidentiality of adolescent healthcare. Most adolescents reported high-quality relationships with their healthcare providers (mean score of 4.5 on a 5-point scale).

Table 2 identifies variables that were significantly associated with discussions about specific SRH topics at the adolescent's last preventive visit in multivariable models. Of healthcare delivery and provider characteristics, *time alone* between adolescents and providers during the last preventive visit was associated with greater odds of discussing all topics except safe dating (range of adjusted odds ratios [AORs] = 1.87–3.87); adolescent age did not modify any of these associations (data not shown). *Face-to-face screening about adolescent sexual activity* was associated with greater odds of discussing each of the eight SRH topics (AORs = 3.40–9.61). Compared with not *completing a health screener at last preventive visit*, parent and teen completion of a screener together was associated with only one topic–discussing methods of birth control (AOR = .42). Likewise, adolescents' *length of time with provider* during their last visit was associated with one outcome: adolescents who had at least 30 minutes with their providers had greater odds of discussing whether or not to have sex than did those who had less than 10 minutes with their providers (AOR = 3.54). The number of *years adolescents had seen their provider*s was associated with one topic: adolescents who did not have a regular provider or did not know how long they had seen their provider ("other" category) had lower odds of discussing sexual orientation than those who had seen their provider for less than 2 years (AOR = .14). *Provider communication with adolescent*

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about confidentiality of adolescent care was associated with greater odds of discussing two topics, puberty (AOR = 1.88) and methods of birth control (AOR = 2.19). *Provider communication with parent about confidentiality of adolescent care* was associated with greater odds of discussing one topic, STIs/HIV (AOR = 2.73). Adolescents who reported *higher quality provider-adolescent relationships* had greater odds of discussing puberty (AOR = 1.53) than those who reported lower quality provider-adolescent relationships.

Examining associations between adolescent beliefs and behaviors and SRH discussions at the last preventive visit, *adolescents' perception that a particular topic was important to discuss with a provider* was associated with greater odds of discussing that topic for all topics except where to get SRH services (AORs = 2.34–5.46). Adolescents who reported *ever having sex* had lower odds of discussing sexual orientation (AOR = .19) and adolescents who reported *alcohol or tobacco use in the past 30 days* had greater odds of discussing birth control methods (AOR = 2.50).

Examining adolescent demographic characteristics, increases in age were associated with greater odds of discussing gender identity (AOR = 1.27), birth control methods (AOR = 1.27), and where to get SRH services (AOR = 1.31). Compared with non-Hispanic white adolescents, non-Hispanic black adolescents had greater odds of discussing sexual orientation (AOR = 2.75), birth control methods (AOR = 2.86), and where to get SRH services (AOR = 2.80). Compared with adolescent females, adolescent males had lower odds of discussing birth control methods (AOR = .50). Adolescents from metropolitan areas had greater odds of discussing puberty than did adolescents from nonmetropolitan areas (AOR = 1.77). Adolescents from higher household income categories had lower odds of discussing gender identity (AOR = .33), birth control methods (AOR = .30), and where to get SRH services (AOR = .33) than did adolescents from households with annual incomes under $25,000.

Discussion

This study is among the first to examine characteristics of healthcare delivery, providers, and adolescents associated with provider-adolescent discussions about a range of specific SRH topics at preventive service visits, utilizing data from a national sample of 11- to 17-year-old youth. Specific provider practices including face-to-face screening about sexual activity and having time alone with the adolescent during the last preventive visit, as well as communicating with adolescents and parents about confidentiality of adolescent services were associated with provider-adolescent discussions about multiple SRH topics at the last preventive visit. Adolescents' perception that a topic is important to discuss with their healthcare provider was also associated with provider-adolescent discussions about most SRH topics. In contrast, adolescent involvement in risk behaviors was generally not associated with SRH discussions.

We identified several key modifiable healthcare delivery and provider characteristics associated with provider-adolescent discussions about SRH topics. Our findings indicate that providers who ask about sexual activity are significantly more likely to discuss a broad range of SRH topics. The practice of face-to-face screening about adolescent sexual activity was

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associated with discussions about all SRH topics. However, screening about sexual activity during clinic visits is not the norm, with population estimates ranging from 52.1% of 14–17 year olds being asked about sexual activity in the past year [11] to 24.9% of this study's sample of 11–17 year olds being asked about sexual activity at their last preventive visit [13]. Our findings suggest that if providers do not ask, they may miss opportunities to open the door to other conversations regarding SRH and, in turn, to deliver needed SRH services to adolescents.

In previous research, members of our group [10] highlighted the utility of using a screening questionnaire for facilitating discussions with young people about sensitive topics including STIs and HIV. Although this practice was not associated with discussing SRH topics in the current study, both provider screening about sexual activity and/or administering a screening questionnaire that directly assesses sexual activity could prompt conversations on a range of SRH topics. Both practices signal willingness of healthcare providers to discuss issues related to adolescent sexuality. Because adolescents and parents may be unsure about broaching specific SRH topics, screening may encourage them to voice their questions about these topics.

Our study corroborates and extends prior work suggesting that time alone between adolescents, including those as young as 11 years, and their providers is critical for having conversations related to SRH. Having time alone with their providers was associated with discussions about seven of eight SRH topics. This aligns with prior research findings that time alone is associated with increased comfort discussing sensitive topics and a greater likelihood of receiving SRH services, such as STI testing or hormonal contraception [8,18]. In spite of clinical guidelines for time alone between providers and adolescents [1,2,4,5], previous research reveals that the confidentiality practice of time alone is relatively uncommon, especially for younger adolescents [8,13,19]. Reasons for this gap between clinical guidelines and practice are likely multifactorial and may include systems-level challenges (e.g., insufficient time during visits, lack of insurance reimbursement for adolescent preventive visits), provider-level barriers (e.g., apprehension about introducing time alone to parents, confusion about the limitations of confidentiality), and parent or patient concerns (e.g., discomfort with time alone, especially for younger teens) [14,20,21]. Quality improvement efforts and interventions that address these barriers to consistent provision of time alone are a promising approach for enhancing the quality of adolescent preventive services [20,22].

Our findings also reinforce the value of having explicit conversations about confidentiality with adolescents and their parents, as collectively such communication was associated with discussions about three of eight SRH topics. Unfortunately, confidentiality discussions with adolescents are often lacking, with population estimates ranging from 43% of 15- to 18-year-old females [8] to 18.6% of 11- to 14-year-old adolescents [13] reporting that a provider has ever spoken with them about confidentiality. Similarly, confidentiality discussions with parents of adolescents are not the norm, with 31.2% of parents of 11–14 year olds and 35.7% of parents of 15–17 year olds in this sample reporting having had a provider speak with them about confidentiality of adolescent services [13]. When confidentiality discussions do occur, prior research suggests that youth are more comfortable

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discussing sensitive topics and more likely to talk honestly about their sexual health [7,8,23]. Explicit conversations with parents about confidentiality may improve parental understanding of confidentiality protections for adolescents and increase parental support for confidential adolescent care [20]. One commonly cited barrier to conversations about confidentiality is provider discomfort and confusion with state laws governing minor consent and confidentiality, which are complex and vary by state [15,20,21,24,25]. Thus, efforts aimed at improving provider knowledge regarding confidentiality laws, encouraging providers to consistently use confidentiality assurances with adolescents and their parents, and educating parents and adolescents regarding confidentiality and minor consent could facilitate critical conversations about SRH topics [20,22].

Another commonly reported systems barrier to discussions about SRH topics is limited time during visits [14,15,20,21]. Prior work has shown that longer visits were associated with a greater likelihood of conversations about STIs and HIV [10]. In contrast, in our multivariable models preventive visits longer than 30 minutes were associated with increased likelihood of provider-adolescent discussions about only one SRH topic. Nonetheless, given that providers commonly identify lack of time as a barrier, identifying efficient and effective approaches for having SRH conversations is an important area of future research.

We examined several adolescent characteristics as potential correlates of SRH discussions. For almost every topic, adolescent perception that the topic was important to discuss with a provider was associated with an increased likelihood of having discussed that topic at their last preventive visit. Members of our group [10] recently published similar findings suggesting that adolescents' positive attitudes about discussing a range of health topics was associated with increased likelihood of having had these discussions during clinic visits. The temporal ordering of these relationships is unclear. It is possible that discussing these topics at a preventive visit increases adolescents' awareness of the importance of these discussions. Alternatively, it is possible that adolescents who perceive conversations with providers about selected SRH topics to be important are also more comfortable having these conversations with providers. In turn, adolescents' level of comfort discussing SRH topics may influence providers' decisions to screen and counsel about these topics [15]. It is important for providers to begin discussing age-appropriate SRH topics during childhood preventive visits, as recommended in Bright Futures [2]. Routine conversations about SRH topics during childhood visits could increase young peoples' awareness of the importance of discussing these topics with their providers during adolescence. Likewise, sexuality education curricula can build adolescents' motivation and skills to have confidential conversations about SRH topics with their health-care providers [26]. Parents can also encourage their adolescents to communicate with their healthcare providers about SRH topics. In contrast to robust correlations with adolescent perceptions, there were very few associations between adolescent involvement in health risk behaviors and provider-adolescent discussions about SRH topics. This finding is encouraging, as clinical guidelines encourage providers to discuss these developmentally relevant topics with all adolescent patients regardless of risk.

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Finally, select adolescent demographic characteristics were associated with increased likelihood of provider-adolescent discussions about SRH topics. The odds of discussing multiple SRH topics were greater among older adolescents. The odds of discussing sexual orientation, birth control methods, and where to get SRH services were greater among non-Hispanic black youth than among non-Hispanic white youth. These differences in discussing SRH topics by adolescent age and race/ethnicity are consistent with a recent study of SRH topics covered during clinic visits among a nationally representative sample of 14–17 year olds [11]. Although adolescent demographic characteristics are not modifiable, demographic differences may point to the need for providers to augment SRH education and guidance with specific groups of adolescents. Better understanding of what underpins these demographic differences is an important topic for future research.

Strengths and limitations

Strengths of this study include a national sample spanning the developmental continuum from 11 to 17 years of age, a focus on adolescent SRH services within the context of primary care, and assessment of adolescents' experiences discussing a broad range of SRH topics with providers. Limitations include the cross-sectional survey design, which does not allow understanding of temporal relationships between the study's independent variables and outcomes. Another limitation is the use of retrospective self-report of provider practices and SRH discussion, which may introduce measurement bias. Although previous research suggests that adolescent self-report of healthcare services received is both reliable and accurate [27,28], recall over a 2-year time frame, even for highly salient events, is likely to be less accurate. A third limitation is the lack of measurement of distal structural characteristics, such as state laws about minor consent for SRH services and presence of Title X services, which may influence provider-adolescent discussions about SRH. Finally, although a probability-based panel was used and analyses are weighted to be representative of U.S. adolescents, there is the potential for selection bias due to low participation rate in the panel. However, this is less concerning given our focus on relationships between variables rather than generating population-level prevalence estimates. [29].

Conclusions

In this study, provider-adolescent discussions about SRH topics during preventive visits were associated with modifiable practices within primary care delivery systems including time alone between providers and adolescents during preventive visits, providers asking adolescents about their sexual activity, and communicating with adolescents and their parents about confidentiality. Collectively, these findings provide important directions for efforts to improve the delivery of adolescent SRH services within primary care.

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References

[1]. American College of Obstetricians and Gynecologists. Primary and preventive health care for female adolescents. In: Guidelines for adolescent health. Washington, DC: American College of Obstetricians and Gynecologists; 2011.

[2]. Hagan JF, Shaw JS, Duncan PM. Bright futures: Guidelines for health supervision of infants, children, and adolescents. 4th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2017.

[3]. Burke P, Coles M, Di Meglio G, et al. Sexual and reproductive health care: A position paper of the Society for Adolescent Health and Medicine. J Adolesc Health 2014;54:491e6. [PubMed: 24656535]

[4]. Elster AB, Kuznets NJ. AMA guidelines for adolescent preventive services (GAPS): Recommendations and rationale. Baltimore, MD: Williams & Wilkins; 1994.

[5]. Marcell AV, Burstein GR. Sexual and reproductive health care services in the pediatric setting. Pediatrics 2017;140:e20172858. [PubMed: 29061870]

[6]. Boekeloo B. Will you ask? Will they tell you? Are you ready to hear and respond? Barriers to physician-adolescent discussion about sexuality. JAMA Pediatr 2014;168:111e3. [PubMed: 24378601]

[7]. Alexander SC, Fortenberry JD, Pollak KI, et al. Sexuality talk during adolescent health maintenance visits. JAMA Pediatr 2014;168:163e9. [PubMed: 24378686]

[8]. Grilo SA, Catallozzi M, Santelli JS, et al. Confidentiality discussions and private time with a health-care provider for youth, United States, 2016. J Adolesc Health 2019;64:311e8. [PubMed: 30638752]

[9]. Copen CE, Dittus PJ, Leichliter JS. Confidentiality concerns and sexual reproductive health care among adolescents and young adults aged 15–25. NCHS Data Brief, no. 266. Hyattsville, MD: National Center for Health Statistics; 2016.

[10]. Santelli JS, Klein JD, Song X, et al. Discussion of potentially sensitive topics with young people. Pediatrics 2019;143:e20181403. [PubMed: 30651304]

[11]. Hensel D, Herbenick D, Beckmeyer J, et al. Adolescents' discussion of sexual and reproductive health care topics with providers: Findings from a nationally representative sample of U.S. adolescents. J Adolesc Health 2021; 68:626e8. [PubMed: 32788074]

[12]. Donaldson AA, Lindberg LD, Ellen J, Marcell A. Receipt of sexual health information from parents, teachers, and healthcare providers by sexually experienced U.S. adolescents. J Adolesc Health 2013;53:235e40. [PubMed: 23743003]

[13]. Sieving R, McRee AL, Mehus C, et al. Sexual and reproductive health discussions during preventive visits. Pediatrics 2021;148:e2020049411. [PubMed: 34253569]

[14]. Sieving RE, Mehus C, Catallozzi M, et al. Understanding primary care providers' perceptions and practices in implementing confidential adolescent sexual and reproductive health services. J Adolesc Health 2020; 67:569e75. [PubMed: 32389456]

[15]. Kaseeska K, Gewirtz O'Brien J, Gorzkowski J, et al. Primary care clinician perspectives on delivery of adolescent sexual health services. Pediatric Academic Societies; 2019:E-PAS2019:4136.236. Available at: https://www.xcdsystem.com/pas2019/program/2019/index.cfm?pgid=156&sid=1090&abid=4876.Accessed November 3, 2021.

[16]. Ipsos. KnowledgePanel. Available at: https://www.ipsos.com/en-us/solutions/public-affairs/knowledgepanel. Accessed November 3, 2021.

[17]. American Association for Public Opinion Research. Standard definitions: Final dispositions of case codes and outcome rates for surveys. 9th ed. Washington, DC: AAPOR; 2016.

[18]. O'Sullivan LF, McKee MD, Rubin SE, Campos G. Primary care providers' reports of time alone and the provision of sexual health services to urban adolescent patients: Results of a prospective card study. J Adolesc Health 2010;47:110–2. [PubMed: 20547301]

[19]. Adams SH, Po J, Park MJ, Irwin CE Jr. Monitoring adolescents' receipt of time alone from two national surveys. J Adolesc Health 2021;68: 79–85. [PubMed: 32624354]

[20]. Pampati S, Liddon N, Dittus PJ, et al. Confidentiality matters but how do we improve implementation in adolescent sexual and reproductive health care? J Adolesc Health 2019;65:315–22. [PubMed: 31227388]

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[21]. McKee MD, Rubin SE, Campos G, O'Sullivan LF. Challenges of providing confidential care to adolescents in urban primary care: Clinician perspectives. Ann Fam Med 2011;9:37–43. [PubMed: 21242559]

[22]. Riley M, Ahmed S, Lane JC, et al. Using maintenance of certification as a tool to improve the delivery of confidential care for adolescent patients. J Pediatr Adolesc Gynecol 2017;30:76–81. [PubMed: 27543001]

[23]. Ford CA, Millstein S, Halpern-Felsher B, Irwin CE Jr. Influence of physician confidentiality assurances on adolescents' willingness to disclose information and seek future care. A randomized controlled trial. JAMA 1997; 278:1029–34. [PubMed: 9307357]

[24]. Loertscher L, Simmons P. Adolescents' knowledge of and attitudes toward Minnesota laws concerning adolescent medical care. J Pediatr Adolesc Gynecol 2006;19:205–7. [PubMed: 16731414]

[25]. Rock EM, Simmons P. Physician knowledge and attitudes of Minnesota laws concerning adolescent health care. J Pediatr Adolesc Gynecol 2003;16: 101–8. [PubMed: 12742145]

[26]. Schalet AT, Santelli JS, Russell ST, et al. Invited commentary: Broadening the evidence for adolescent sexual and reproductive health and education in the United States. J Youth Adolesc 2014;43:1595–610. [PubMed: 25200033]

[27]. Santelli J, Klein JD, Graff C, et al. Reliability in adolescent reporting of clinician counseling, health care use, and health behaviors. Med Care 2002; 40:26–37. [PubMed: 11748424]

[28]. Klein JD, Graff CA, Santelli JS, et al. Developing quality measures for adolescent care: Validity of adolescents' self-reported receipt of preventive services. Health Serv Res 1999;34:391–404. [PubMed: 10199683]

[29]. Hays RD, Liu H, Kapteyn A. Use of internet panels to conduct surveys. Behav Res Methods 2015;47:685–90. [PubMed: 26170052]

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IMPLICATIONS AND CONTRIBUTION

This study examines modifiable healthcare delivery characteristics associated with provider-adolescent discussions about a range of sexual and reproductive health topics at preventive visits, utilizing data from a national adolescent sample. Findings suggest that implementing confidentiality practices and face-to-face screening about sexual activity can facilitate provider-adolescent discussions about sexual and reproductive health.

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Table 1

Descriptive characteristics of study sample, confidential adolescent sexual health services study, 2019[a]

	N (%)
Adolescent demographic characteristics	
Sex	
Female	418 (48.9)
Male	427 (51.0)
Other	2 (.1)
Age in years	
11–14	465 (56.1)
15–17	388 (43.9)
Race and ethnicity	
White, non-Hispanic	494 (52.4)
Black, non-Hispanic	74 (13.4)
Hispanic	200 (24.2)
Other[b] and/or multiple races	85 (10.0)
Sexual orientation	
Heterosexual	762 (90.7)
Bisexual, gay, lesbian, or other	39 (4.6)
Not sure	40 (4.7)
Family demographic characteristics	
Residence	
Nonmetropolitan	284 (17.2)
Metropolitan	569 (82.8)
Household income	
<$25,000	101 (12.4)
$25,000–$49,999	155 (18.1)
$50,000–$74,999	150 (16.1)
$75,000–$99,999	134 (13.9)
$100,000–$124,999	113 (11.3)
$125,000+	200 (28.2)
Adolescent involvement in risk behaviors	
Ever had sex (oral, vaginal, or anal)	
No	773 (92.4)
Yes	66 (7.6)
Alcohol or tobacco use in the past 30 days	
No	772 (91.4)
Yes	70 (8.6)
Healthcare delivery and provider characteristics	
Health screener, last preventive visit	
Adolescent did not complete a health screener	581 (68.5)
Adolescent completed form independently	137 (16.5)

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	N (%)
Parent and adolescent completed form together	133 (15.0)
Time alone, last preventive visit	
No	599 (69.4)
Yes	248 (30.6)
Provider screening about adolescent sexual activity, last preventive visit	
No	648 (75.1)
Yes	199 (24.9)
Length of time with provider, last preventive visit	
<10 minutes	167 (20.4)
10–19 minutes	348 (39.5)
20–29 minutes	223 (27.0)
>30 minutes	108 (13.1)
Years adolescent has seen their regular provider	
< 2 years	202 (23.3)
2–5 years	158 (18.7)
> 5 years	416 (48.4)
Other response	74 (9.6)
Provider ever communicated with adolescent regarding confidentiality of adolescent care	
No	580 (67.9)
Yes	268 (32.1)
Provider ever communicated with parent regarding confidentiality of adolescent care	
No	580 (66.8)
Yes	272 (33.2)
Provider-adolescent relationship quality	mean (SE) 4.51 (.03), range 1.8–5.0

SE = standard error.

[a]Table displays raw frequencies and weighted percentages.

[b]Includes American Indian, Asian, Hawaiian/Pacific Islander, and other non-Hispanic racial groups.

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Table 2

Multivariable models[a] examining correlates of provider-adolescent discussions about sexual and reproductive health topics, Confidential Adolescent Sexual Health Services Study, 2019

Independent variables	Puberty (n = 767)	Safe dating (n = 753)	Sexual orientation (n = 758)	Gender identity (n = 767)	Whether or not to sex (n = 762)	have STIs and HIV (n = 765)	Methods of birth control (n = 759)	Where to get SRH services (n = 759)
	AOR 95% CI	AOR 95% CI	AOR 95% CI	AOR 95% CI	AOR 95% CI	AOR 95% CI	AOR 95% CI	AOR 95% CI
Healthcare delivery and provider characteristics								
Time alone, last preventive visit								
No	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference
Yes	**1.87 (1.17, 2.98)**	1.11 (.54, 2.27)	**3.53 (1.57, 7.96)**	**2.42 (1.12, 5.22)**	**2.11 (1.03, 4.35)**	**2.86 (1.58, 5.18)**	**3.06 (1.56, 6.00)**	**3.87 (1.83, 8.21)**
Provider screening about adolescent sexual activity, last preventive visit								
No	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference
Yes	**3.67 (2.15, 6.27)**	**6.08 (3.06, 12.09)**	**4.73 (2.15, 10.43)**	**3.45 (1.64, 7.28)**	**8.74 (4.39, 17.39)**	**9.61 (5.36, 17.24)**	**5.01 (2.66, 9.42)**	**3.40 (1.70, 6.83)**
Health screener, last preventive visit								
Did not complete a health screener	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference
Teen filled out independent form	1.65 (.99, 2.76)	1.67 (.81, 3.43)	1.69 (.79, 3.61)	1.33 (.65, 2.74)	1.44 (.69, 2.97)	.91 (.45, 1.85)	1.39 (.71, 2.72)	1.48 (.75, 2.92)
Parent + teen completed form together	1.47 (.85, 2.53)	1.01 (.47, 2.16)	.73 (.29, 1.86)	.60 (.24, 1.53)	.59 (.26, 1.35)	.49 (.23, 1.03)	**.42 (.19, .94)**	.84 (.36, 1.94)
Time with provider, last preventive visit								
Less than 10 minutes	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference
10–19 minutes	1.57 (.95, 2.59)	.89 (.40, 1.97)	.60 (.26, 1.37)	.75 (.34, 1.65)	1.09 (.47, 2.48)	.98 (.47, 2.04)	1.03 (.49, 2.16)	.90 (.39, 2.07)
20–29 minutes	1.37 (.77, 2.44)	.92 (.38, 2.24)	.66 (.26, 1.64)	.76 (.31, 1.88)	2.14 (.90, 5.08)	1.10 (.50, 2.43)	1.24 (.54, 2.85)	1.41 (.58, 3.40)
30 minutes or more	1.81 (.94, 3.49)	1.36 (.43, 4.33)	2.15 (.71, 6.50)	1.65 (.53, 5.13)	**3.54 (1.15, 10.87)**	2.21 (.87, 5.65)	2.02 (.72, 5.66)	1.82 (.63, 5.26)
Years adolescent has seen provider								
<2 years	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference
2–5 years	1.38 (.77, 2.47)	.47 (.18, 1.25)	.70 (.27, 1.84)	.92 (.39, 2.19)	.84 (.34, 2.09)	1.08 (.47, 2.51)	.64 (.26, 1.58)	1.19 (.47, 3.05)
>5 years	1.47 (.94, 2.31)	1.43 (.73, 2.76)	1.39 (.69, 2.78)	.97 (.49, 1.91)	1.43 (.72, 2.87)	1.83 (.98, 3.43)	.87 (.46, 1.63)	1.38 (.70, 2.69)
Other[b]	.58 (.25, 1.39)	.68 (.18, 2.56)	**.14 (.02, .91)**	.38 (.06, 2.34)	.54 (.15, 2.02)	.91 (.22, 3.76)	.21 (.04, 1.20)	.52 (.10, 2.70)
Provider ever communicated with adolescent reconfidentiality								
No	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference

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Independent variables	Puberty (n = 767)	Safe dating (n = 753)	Sexual orientation (n = 758)	Gender identity (n = 767)	Whether or not to sex (n = 762)	have STIs and HIV (n = 765)	Methods of birth control (n = 759)	Where to get SRH services (n = 759)
	AOR 95% CI	**AOR 95% CI**	**AOR 95% CI**	**AOR 95% CI**	**AOR 95% CI**	**AOR 95% CI**	**AOR 95% CI**	**AOR 95% CI**
Yes	**1.88 (1.16, 3.02)**	1.23 (.64, 2.39)	1.42 (.61, 3.28)	1.57 (.71, 3.44)	1.02 (.50, 2.09)	1.24 (.69, 2.24)	**2.19 (1.19, 4.03)**	1.94 (.97, 3.88)
Provider ever communicated with parent reconfidentiality								
No	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference
Yes	.93 (.59, 1.47)	1.62 (.88, 3.00)	1.10 (.52, 2.30)	.92 (.44, 1.93)	1.67 (.85, 3.27)	**2.73 (1.54, 4.85)**	1.76 (.95, 3.27)	1.89 (1.00, 3.58)
Provider-adolescent relationship quality	**1.53 (1.12, 2.10)**	1.63 (.93, 2.88)	1.03 (.60, 1.74)	1.76 (.98, 3.13)	1.09 (.64, 1.83)	1.13 (.72, 1.78)	1.08 (.67, 1.76)	.91 (.55, 1.49)
Adolescent beliefs and behaviors								
Importance of discussing topic								
Not important	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference
Important	**2.90 (1.80, 4.68)**	**5.46 (2.79, 10.67)**	**4.17 (2.14, 8.13)**	**3.37 (1.74, 6.52)**	**3.63 (1.80, 7.33)**	**2.34 (1.05, 5.21)**	**2.36 (1.06, 5.26)**	1.76 (.81, 3.83)
Ever had sex (oral, vaginal, or anal)								
No	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference
Yes	.56 (.26, 1.24)	.96 (.40, 2.28)	**.19 (.04, .82)**	.37 (.11, 1.25)	1.50 (.58, 3.89)	1.20 (.54, 2.64)	1.36 (.58, 3.17)	1.05 (.44, 2.53)
Alcohol or tobacco use, past 30 days								
No	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference
Yes	1.09 (.49, 2.43)	2.32 (.89, 6.05)	1.23 (.44, 3.42)	1.67 (.54, 5.15)	1.05 (.39, 2.78)	1.42 (.65, 3.10)	**2.50 (1.10, 5.69)**	1.18 (.50, 2.79)
Demographic characteristics								
Adolescent age	.96 (.87, 1.06)	1.20 (.99, 1.45)	1.13 (.92, 1.40)	**1.27 (1.05, 1.55)**	1.18 (.96, 1.44)	1.16 (.98, 1.37)	**1.27 (1.05, 1.54)**	**1.31 (1.07, 1.60)**
Adolescent race and ethnicity								
Non-Hispanic white	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference
Non-Hispanic black	1.90 (.94, 3.83)	1.58 (.67, 3.77)	**2.75 (1.03, 7.39)**	2.00 (.76, 5.23)	1.06 (.41, 2.74)	2.17 (.98, 4.80)	**2.86 (1.26, 6.50)**	**2.80 (1.16, 6.73)**
Hispanic	.84 (.52, 1.35)	.72 (.36, 1.44)	1.66 (.77, 3.60)	2.00 (.93, 4.34)	1.73 (.88, 3.41)	1.58 (.86, 2.90)	1.91 (.97, 3.74)	1.58 (.77, 3.25)
Other	**.49 (.28, .86)**	1.19 (.51, 2.78)	1.53 (.50, 4.65)	1.65 (.54, 5.12)	1.50 (.57, 3.91)	.79 (.29, 2.20)	.89 (.34, 2.36)	1.38 (.41, 4.63)
Adolescent sex								
Female	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference
Male	.84 (.58, 1.24)	1.43 (.74, 2.76)	1.19 (.58, 2.41)	.84 (.41, 1.72)	1.04 (.54, 2.03)	1.34 (.75, 2.37)	**.50 (.27, .93)**	.91 (.47, 1.80)
Residence								
Nonmetropolitan	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference
Metropolitan	**1.77 (1.15, 2.72)**	1.15 (.62, 2.15)	1.24 (.57, 2.72)	1.49 (.75, 2.97)	1.39 (.66, 2.89)	1.18 (.62, 2.27)	1.00 (.52, 1.91)	1.19 (.58, 2.44)
Household income, $								

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Independent variables	Puberty (n = 767)	Safe dating (n = 753)	Sexual orientation (n = 758)	Gender identity (n = 767)	Whether or not to sex (n = 762)	have STIs and HIV (n = 765)	Methods of birth control (n = 759)	Where to get SRH services (n = 759)
	AOR 95% CI	**AOR 95% CI**	**AOR 95% CI**	**AOR 95% CI**	**AOR 95% CI**	**AOR 95% CI**	**AOR 95% CI**	**AOR 95% CI**
<25,000	Reference	Reference	Reference	Reference	Reference	Reference	Reference	Reference
25,000–49,999	.99 (.47, 2.08)	1.18 (.42, 3.32)	1.03 (.34, 3.15)	.82 (.29, 2.34)	.86 (.30, 2.49)	.96 (.34, 2.76)	.54 (.18, 1.59)	.78 (.28, 2.15)
50,000–74,999	.84 (.38, 1.84)	1.18 (.42, 3.27)	.48 (.14, 1.60)	.42 (.15, 1.17)	1.13 (.43, 2.95)	.96 (.32, 2.87)	.77 (.27, 2.18)	.63 (.23, 1.70)
75,000–99,999	.72 (.35, 1.51)	.47 (.16, 1.41)	.33 (.10, 1.12)	.58 (.19, 1.74)	.38 (.12, 1.21)	.49 (.16, 1.50)	.59 (.19, 1.80)	**.33 (.11, .96)**
100,000–124,999	.78 (.37, 1.66)	.88 (.23, 3.28)	.37 (.12, 1.15)	.44 (.13, 1.49)	.36 (.10, 1.24)	.47 (.15, 1.51)	**.30 (.10, .86)**	.38 (.13, 1.10)
125,000+	.71 (.36, 1.39)	.83 (.32, 2.18)	.42 (.14, 1.30)	**.33 (.12, .93)**	.45 (.16, 1.23)	.84 (.31, 2.28)	.52 (.18, 1.50)	.34 (.12, 1.01)

Bold font, statistically significant association ($p \leq .05$).

AOR = adjusted odds ratio; CI = confidence interval; SRH = sexual and reproductive health; STIs/HIV = sexually transmitted infections including human immunodeficiency virus.

[a] Separate models for each SRH topic outcome. Each model included all independent variables listed in table.

[b] Includes adolescents who did not have a regular provider or did not know how long they had seen their provider.