Do Adolescents and Young Adults Learn about Condoms from Healthcare Providers? Findings from a U.S. Probability Sample

Jonathon J. Beckmeyer, PhD[a,b]
jonathon.beckmeyer@mail.wvu.edu

Callie L. Patterson, MA[a,b]
callpatt@iu.edu

Tsung-Chieh (Jane) Fu, PhD[b]
janefu@iu.edu

Devon J. Hensel, PhD[c,d]
djhensel@iu.edu

Brian Dodge, PhD[a,b]
bmdodge@indiana.edu

Debby Herbenick, PhD, MPH[a,b]
debby@indiana.edu

[a]Department of Applied Health Science, Indiana University School of Public Health-Bloomington, 1025 E. 7th St., Suite 116, Bloomington, IN 47405

[b]Center for Sexual Health Promotion, Indiana University, 1025 E. 7th St., Suite 116, Bloomington, IN 47405,

[c]Divison of Adolescent Medicine, Indiana University School of Medicine,

[d]Department of Sociology, Indiana University Purdue University-Indianapolis

Corresponding Author: Jonathon J. Beckmeyer, PhD, Department of Learning Sciences and Human Development, 506 Allen Hall, 355 Oakland Street, Morgantown, WV, 26506.

Acknowledgements

The 2018 National Survey of Sexual Health and Behavior was funded by Church & Dwight Co., Inc., the maker of Trojan brand sexual health products.

This is the author's manuscript of the work published in final form as:

Beckmeyer, J. J., Patterson, C. L., Fu, T.-C. (Jane), Hensel, D. J., Dodge, B., & Herbenick, D. (2021). Do Adolescents and Young Adults Learn About Condoms from Healthcare Providers? Findings from a US Probability Sample. Sexuality Research and Social Policy. https://doi.org/10.1007/s13178-021-00589-4

Abstract

Introduction: Using data from the 2018 National Survey of Sexual Health and Behavior, we determined the prevalence and content of adolescents' and young adults' communication with healthcare providers about condom use.

Methods: Adolescents (14-17 years-old; *n* = 283) and young adults (18-24 years-old, *n* = 225), who discussed sexual health with a healthcare provider in the past-year, reported if they had discussed condom use with a healthcare provider and among those who did, they also reported why healthcare providers recommended condoms, if they demonstrated correct condom use, and/or provided condoms. Data collection occurred in February and March 2018.

Results: Most adolescents (71.0%) and young adults (66.7%) who discussed sexual health with a healthcare provider, reported discussing condom use. Condoms were most often recommended for both pregnancy and STD prevention. Fewer adolescents and young adults were shown how to use condoms (11.4% of adolescents; 5.7% of young adults) or provided condoms (14.9% of adolescents; 14.7% of young adults). Only 3.2% of adolescents and 1.3% of young adults had healthcare providers who discussed, demonstrated, and provided condoms.

Conclusions: Sexual health conversations with healthcare providers are likely to include condoms. But few adolescents and young adults were shown how to use condoms or provide condoms.

Policy Implications: Providing healthcare providers with resources and trainings about how to talk about condoms with patients may lead to more adolescents and young adults learning medically accurate information about condoms. Healthcare offices and clinics could also provide condom use resources outside of provider-patient interactions.

Key words: condom use; healthcare; sexual health; adolescence; young adulthood

Do Adolescents and Young Adults Learn about Condoms from Healthcare Providers? Findings from a U.S. Probability Sample

Introduction

Condoms provide dual protection against sexually transmitted diseases (STDs) and unintended pregnancy and youth are more likely to rely on condoms than long-acting reversible contraceptives for pregnancy prevention (Martinez & Abma, 2020; Thomas, 2019). Therefore, condom knowledge, accessibility, and use are critical components of sexual health promotion. Although it appears that condom use at first penile-vaginal sex has remained relatively stable (Abma & Martinez, 2017; Holway et al 2020), trends on adolescent and young adult condom use more broadly illustrate declining condom use (National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention [NCHHSTP], 2015; Witwer et al., 2018). Further, when adolescents and young adults do use condoms, they do not always do so correctly (Crosby et al., 2002; Paz-Bailey et al., 2005; Warner et al., 2004) or everytime they have sex (Copen, 2017). Inconsistent condom use and condom use errors (e.g., not applying or removing condoms correctly) mean that adolescents and young adults are not reducing their likelihood of contracting STDs, experiencing unintended pregnancy, or both, even if they believe they are taking steps to prevent those outcomes (Moreau & Bohet, 2016; Paz-Bailey et al., 2005; Warner et al., 2004). Finally, adolescents and young adults can face a condom use information void. For example, only about half of adolescent women (47%) and men (54%) report receiving information about how to use condoms (Lindberg et al., 2016). This may be due to expected sources of sexual and reproductive health information (e.g., parents and school-based sexual health programs) being unable or unwilling to provide accurate and comprehensive information about condoms (Farringdon et al., 2014; Guttmacher Institute, 2019; Jerman & Constantine, 2010; Newcomb et al., 2018).

Healthcare providers play critical roles in ensuring adolescents and young adults have accurate and complete sexual and reproductive health information, including condom use (Fuzzell et al., 2017; Grubb et al., 2020; Marcell & Burstein, 2017; Richards et al., 2016; Santa-Maria et al., 2017). However, in their review of adolescent-healthcare provider sexual health communication, Fuzzell et al. (2017) noted a lack of research on the content of communication about protective behaviors such as condom use. Specifically, they highlighted that they only found two studies that assessed if providers described how to correctly use condoms. The purpose of the present study was to determine if adolescents and young adults learn about condoms from their healthcare providers. Specifically, we used data from the 2018 National Survey of Sexual Health and Behavior (NSSHB), a national probability survey of U.S. sexual health and behavior, to determine the prevalence and content of adolescents and young adults' communication with healthcare providers about condom use. In this study we consider condom use communication to include reasons to use condoms, instruction about correct condom use, and offering to provide condoms to adolescents and young adults.

Sources of Condom Use Information

Parents, school-based programs, and healthcare providers can all provide adolescents and young adults with accurate information about condom use. Parents are considered important sources of sexual health information for adolescents and young adults (Donaldson et al., 2013; Goldman & Bradley, 2004; Pop & Rusu, 2015), and it appears that many parents do talk with their children about sex (Donaldson et al., 2013; Lindberg et al., 2016). However, some parents are unwilling to discuss sexual health practices beyond abstinence, leading them to sidestep topics such as the importance of condom use (Evan et al., 2019; Elliot, 2010; Grossman et al., 2013; Ohalete et al., 2010). School-based programs are another potential source of condom use

information. However, recent analyses of the National Survey of Family Growth showed a significant decline in adolescent participation in formal sexual and reproductive health programs (Lindberg et al., 2016). Further, due to programmatic restrictions, school-based programs are unlikely to include information on condom use, demonstrate how to correctly use condoms, provide condoms, or all three (Lindberg et al., 2016). Young adults who never participated in a school-based sexual and reproductive health program, or who were dissatisfied with prior school-based programs, may seek out human sexuality courses in college (King et al., 2019; Rye et al., 2014), which are likely to provide comprehensive contraceptive education (Oswalt et al., 2015). However, such classes are only a viable option for college students. Young adults not enrolled in college may have fewer opportunities to learn accurate information about condoms.

In the absence of sexual health information from parents, school-based programs, or both, adolescents and young adults may turn to healthcare providers. For example, teens and young adults have reported wanting to receive sexual health information from doctors and other healthcare clinicians (Guss et al., 2015; Ito et al., 2006; Same et al., 2014). However, adolescents and young adults are less likely to receive sexual health information from healthcare providers than parents or teachers (Donaldson et al., 2013; Fuzzell et al., 2017). Further, in a recent systematic review of adolescent-healthcare provider communication about sex, the prevalence of adolescent-reported communication with providers about protective behaviors (i.e., condoms, contraception, and/or birth control) ranged from 13% to 51% (Fuzzell et al., 2017). Thus, it does not appear that most adolescents or young adults receive condom use information from their healthcare providers. It is also unclear if healthcare providers go beyond providing information about condom use such as demonstrating correct condom use and providing condoms.

Discussions with Healthcare Providers

Adolescents and young adults' condom use discussions with healthcare providers may be influenced by demographic characteristics, romantic and sexual experience, and other aspects of healthcare visits. Specific demographic characteristics, including gender and sexual identity, may play important roles in condom use discussions. Sexual scripts during adolescence and young adulthood often emphasize that women are expected to control sexual encounters including if contraception is used (Hurst & Boyce Rodgers, 2019; Tolman, 2002). Healthcare providers may replicate those biases by being more likely to discuss, demonstrate, and provide condoms with women (Emmers-Sommer et al., 2009). Sexual minority adolescents and young adults are at greater risk than their sexual majority peers for experiencing adverse sexual health outcomes including contracting STDs (Coker et al., 2010; Everett et al., 2013; Goodenow et al., 2008) and unintended pregnancy among lesbian and bisexual women (Everett et al., 2017). Because of that elevated risk, healthcare providers may have a conscious or unconscious bias that sexual minority youth are sexually risky (Hinchliff et al., 2005), leading healthcare providers to emphasize condom use with sexual minority adolescents and young adults. Alternatively, healthcare providers may perceive some sexual minorities such as lesbian women as being at lower risk for unintended pregnancy, leading to less communication about condoms.

Romantic involvement and prior penetrative sexual experience may also influence condom use discussions with healthcare providers. Adolescents and young adults in romantic relationships may be interested in, and responsive to, condom use discussions with health care providers because partnered sexual activity most often occurs with dating and romantic partners (Fortenberry et al., 2010; Manning et al., 2014). Further, among adolescents who have not engaged in penile-vaginal sex, being involved in other-sex romantic relationships often paves the way towards beginning such sexual activity (VanOss et al., 2006). Prior experience with penile-

vaginal and/or penile-anal intercourse may also increase the likelihood of discussing condom use with healthcare providers, that adolescents and young adults seek information from their providers, or both. The effects that romantic involvement and sexual experience may have on condom use discussions, however, may depend on healthcare providers' awareness of those aspects of adolescents and young adults' lives. That is, healthcare providers may use information from patients' sexual histories to decide if they will pursue discussions of condom use. Thus, it is important that healthcare providers to inquire about adolescents' and young adults' romantic and sexual activity, history, and intentions (Beckmeyer et al., 2020; Liddon et al., 2021). Doing so may be facilitated by time alone with providers during healthcare visits.

Present Study

The present study had two aims. First, we determined if, and what, adolescents and young adults have learned about condom use from their healthcare providers. Specifically, we used data from the 2018 NSSHB to determine the prevalence of condom use discussions with healthcare providers in the past-year. For adolescents and young adults who had discussed condom use with healthcare providers, we also assessed if healthcare providers demonstrated correct condom use, provided condoms for future use, and why healthcare providers recommend condom use. The second study aim focused on identifying factors associated with the prevalence and content of condom use discussions with healthcare providers. Specifically, we explored the effects of adolescent and young adult demographic characteristics, romantic and sexual experience, and healthcare visit characteristics.

Method

The present study used data from the 2018 NSSHB. The NSSHB is multi-year nationally representative probability survey of Americans aged 14 and older on the topic of sexual health

and behavior. The 2018 NSSHB was conducted using the Ipsos (formerly GfK) Internet-based KnowledgePanel®, which is representative of the non-institutionalized, English speaking U.S. population. The Ipsos KnowledgePanel® participants were recruited using probability-based address sampling based on the U.S. Postal Service's Delivery Sequence File. If a selected household lacked internet access and/or computer hardware necessary to participate in the panel, but wanted to participate, then they were provided with connectivity by Ipsos. KnowledgePanel® members earn points for their survey participation that can be redeemed for merchandise or cash by completing surveys. All NSSHB protocols and instruments were approved by the Indiana University Institutional Review Board. All participants provided written informed consent and data was collected between February and March of 2018.

The present study is based on the adolescent (14- to 17-years-old) and young adult (18- to 24-years-old) samples in the 2018 NSSHB. Adolescent participants were recruited by asking adult KnowledgePanel® members, who had a child between 14- and 17-years-old, if we could invite their child to participate in the study. If parents consented to allowing their child to be invited, then they could choose to either ask their adolescent to come to the computer to complete the survey or the adolescent could complete the survey at another time that was convenient to them. The young adult participants were recruited by sending study invitations directly to the 18 to 24-year-old KnowledgePanel® members. To correct for possible non-response bias, Ipsos created post-stratification weights using benchmarks from the March 2017 Current Population Survey. There were separate weights for the adolescent and young adult samples. All analyses were conducted on the weighted samples. The weighted adolescent sample included 826 participants, and the weighted young adult sample included 618 participants.

The present analyses utilized items that were asked only of adolescents and young adults who (a) had at least one healthcare visit in the past year and (b) discussed sexual health with healthcare providers during at least one of those healthcare visits. That is, if adolescents or young adults did not have a past-year healthcare visit during which they discussed sexual health they did not receive the survey items about condom experiences used in the present analyzes. Overall, 91.8% (n = 758) of adolescents and 79.0% (n = 488) of young adults had a past-year healthcare visit. Having discussed sexual health with healthcare providers was determined with one item: "Did you and your healthcare provider(s) discuss sex or sexual health? By sexual health we mean talking about things like your sexual activities, condoms, birth control, sexual difficulties, pregnancy plans, STD testing, etc." Approximately, one-third of adolescents (37.3%, n = 283) and 46.0% (n = 225) of young adults with past-year healthcare visits had discussed sex or sexual health with their healthcare providers. The adolescents and young adults who reported having had sexual health discussions with healthcare providers were the analytical samples for the present study (see Table 1 for demographics).

(Table 1 here)

Measures

Discussed condom use. Adolescents and young adults were asked if they had discussed condom use with their healthcare provider using the item: "Did your healthcare provider talk with you about using condoms?" Response options were: *yes*, *no*, or *I don't remember*.

Condom recommendations. Participants who reported they had discussed condom use with their healthcare providers were then asked why their healthcare providers recommended using condoms using the item: "When your healthcare provider talked with you about using condoms did they recommend them for …?" Response options were: *STD prevention*, *pregnancy*

prevention, both STD and pregnancy prevention, *They just recommended using condoms but didn't say why*, *other reason*, and *I don't remember*.

Demonstrated condom use. Participants who reported they had discussed condom use with their healthcare providers were also asked if healthcare providers demonstrated correct condom usage using the item: "Did your healthcare providers show you how to correctly open and apply a condom?" Response options were: *yes*, *no*, and *I don't remember*.

Provided condoms. Participants who reported they had discussed condoms with their healthcare providers were also asked if healthcare providers provided them with condoms using the item: "Did your healthcare provider give you any condoms to use in the future?" Response options were: *yes, no,* and *I don't remember.*

Characteristics of healthcare visit. We explored if two characteristics of participants' healthcare visits were related to the prevalence and content of condom use discussions with healthcare providers: privacy during the visit and if providers asked about sexual activity. *Privacy during visit* was measured with one item: "Thinking about the times you've seen a healthcare provider (doctor or nurse) in the past year, were you ever alone with the healthcare provider?" Response options were: *No – A parent, guardian, or relative was in the room with you the entire time, Yes – You were alone in the room with the healthcare provider the entire time, Yes – Your parent, guardian, or relative was in the room with you some of the time, and some of the time you were alone with a the healthcare provider*. *Provider's sexual activity inquiry* was measured with one item: "Did your healthcare provider ask if you are sexually active?' Response options were: *yes, no,* and *I don't remember.*

Romantic involvement. Participants were asked: "Which best describes your current relationship status?" Response options were: *single and not dating, single and dating/hanging*

out with someone, in a relationship but not living together, living together but not married, married and living together, and *married but not living together*. We combined those who were in a relationship and those who were married. Therefore, our romantic involvement variable had three categories: *single, dating/hanging out with someone,* or *in a relationship*.

Penile-vaginal and penile-anal sex experience. Participants were asked how recently they had engaged in penile-vaginal intercourse, received anal sex (i.e., someone put their penis in their anus), and performed anal sex (i.e., they put their penis in someone's anus). Response options were: *Done in the past 30 days, done in the past 6 months, done in the past year, done more than a year ago,* and *never done this*. We created a dichotomous variable from these items representing if they had ever or never had had penile-vaginal and/or penile-anal sex.

Demographic characteristics. For both adolescents and young adults demographic characteristics included age in years, race/ethnicity (White non-Hispanic, Black non-Hispanic, other race non-Hispanic, Hispanic, or multiracial non-Hispanic), gender (male, female, transgender, gender non-binary, or did not respond), and sexual identity (heterosexual, gay or lesbian, bisexual, asexual, something else, or did not respond). Additionally, for adolescents, parents' marital status (parents are married, or parents are not married) was included as a demographic characteristic. Finally, for young adults, we also included level of educational attainment (less than high school, high school, some college, or bachelor's degree or higher).

Analysis Plan

Analyses were conducted separately for adolescents and young adults and used the weighted data. First, we calculated weighted descriptive statistics for (a) having discussed condom use, (b) reasons healthcare providers recommended using condoms, (c) if healthcare providers demonstrated correct condom use, and (d) if healthcare providers provided condoms

for future use. Next, we used logistic regression to determine if characteristics of healthcare visits, romantic involvement, penile-vaginal and/or penile-anal sex experience, and/or demographic characteristics were associated with having discussed condom usage with healthcare providers.

For the items pertaining to demonstrating and providing condoms we conducted exploratory analyses using crosstabulations because those experiences were uncommon (e.g., in this sample, 23 adolescents and nine young adults where shown how to use condoms, and 30 adolescents and 22 young adults were provided condoms). In the exploratory crosstabulations we examined how condom use demonstrations and providing condoms were distributed across demographic characteristics, romantic and sexual experience, and healthcare visit characteristics. Finally, using adolescents and young adults' responses on all condom interaction items, we classified participants into mutually exclusive groups representing the overall content of their condom interactions with healthcare providers.

Results

Adolescent Sample

Discussed condom use. Most of the adolescents who reported having had sexual health conversations with healthcare providers reported discussing condom use (71.0%; n = 201 of 283; see Table 1). The logistic regression model to identify factors associated with having discussed condom use was significant ($\chi^2(14) = 38.77$, $p < .001$; see Table 2). There were three statistically significant associations. Having discussed condoms with healthcare providers was more common for adolescents with penile-vaginal and/or penile-anal sex experience (*OR* = 3.66, 95% *CI*[1.33, 10.10], $p = .012$) and when healthcare providers asked adolescents if they were sexually active (*OR* = 2.56, 95% *CI*[1.16, 5.68], $p = .021$). Compared to adolescents whose parents/guardians

remained in the room for the entire healthcare visit, adolescents that were alone with their provider for at least some of the visit were more likely to have discussed condom use (*OR* = 2.22, 95% *CI*[1.19, 4.15], *p* = .013).

(Table 2 here)

Condom recommendations. The most common reason condom use was recommended to adolescents was to prevent both STIs and pregnancy (86.0%; *n* = 173 of 201; see Table 3).

(Table 3 here)

Demonstrating condom use. Few adolescents reported that healthcare providers demonstrated how to correctly open and apply condoms (11.4%; *n* = 23 of 201). Based on our crosstabulation table, that used pairwise deletion (see Table 4), of the adolescents who were shown how to correctly use a condom, all were heterosexual (*n* = 23; 100.0%) and most were female (*n* = 13; 56.5%), had married parents (*n* = 17; 73.9%), were not romantically involved (*n* = 16; 69.6%), were alone with the healthcare provider for part of the visit (*n* = 15; 65.2%), and had been asked if they were sexually active (*n* = 19; 82.6%). Exploring condom demonstration and adolescents' sexual experiences more specifically, 4.5% (*n* = 2 of 44) of adolescents who have engaged in penile-vaginal or penile-anal sex were shown how to correctly use a condom. Similarly, 11.9% (*n* = 5 of 42) of adolescents who were currently dating and 11.8% (*n* = 2 of 17) of those in romantic relationships had been shown how to correctly use a condom.

Providing condoms. Few adolescents reported being provided condoms for future use (*n* = 30 of 201; 14.9%). Based on our crosstabulation table, that used pairwise deletion (see Table 4), most of the adolescents who were provided condoms were heterosexual (*n* = 26; 86.7%), had married parents (*n* = 23; 76.7%), were not romantically involved (*n* = 21; 70.0%), were alone with the healthcare provider for part of the visit (*n* = 16; 55.2%), and had been asked if they were

sexually active (*n* = 28; 96.6%). Exploring being provided condoms and adolescent sexual experience more specifically, 17.8% (*n* = 8 of 45) of adolescents who had engaged in penile-vaginal or penile-anal sex were provided condoms. Similarly, 19.0% (*n* = 8 of 42) of adolescents who were dating and 5.9% (*n* = 1 of 17) of those in romantic relationships were offered condoms.

(Table 4 here)

Condom interaction categories. Using adolescents' responses on the items regarding whether condom discussions occurred, correct condom use was demonstrated, and/or condoms were provided we classified them into mutually exclusive groups based if they had discussed condom use with healthcare providers and if providers had demonstrated and/or provided condoms (see Table 5). These groups illustrated that most often, healthcare provider-adolescent condom interactions are limited to just discussing condoms (55.1%). Fewer adolescents reported healthcare providers discussed condoms and demonstrated their correct use (5.2%), discussed and provided condoms (7.4%), or had healthcare providers who discussed, demonstrated, and provided condoms (3.2%).

(Table 5 here)

Young Adult Sample

Discussed condom use. Most young adults who discussed sexual health with a healthcare provider reported discussing condom use (66.7%, *n* = 150 of 225; see Table 1). The logistic regression model to identify factors associated with having discussed condom use was significant ($\chi^2(16) = 49.74$, $p < .001$; see Table 2). There were four statistically significant associations. Older (*OR* = 0.77, 95% *CI*[0.63, 0.94], *p* = .009) and sexual minority (*OR* = 0.37, 95% *CI*[0.14, 0.97], *p* = .044) young adults were less likely to have discussed condoms with

healthcare providers. Compared to White non-Hispanic young adults, Hispanic young adults were more likely to have discussed condom use with healthcare providers (*OR* = 3.50, 95% *CI*[1.23, 9.95], *p* = .019). Finally, young adults with penile-vaginal and/or penile-anal sex experience were more likely to have discussed condom use with healthcare providers (*OR* = 3.99, 95% *CI*[1.75, 9.10], *p* = .001).

Condom recommendations. The most common reason condom use was recommended to young adults was to prevent both STIs and pregnancy (76.0%; *n* = 114 of 150; see Table 3).

Demonstrating condom use. Few young adults reported that healthcare providers demonstrated how to correctly open and apply condoms (6.0%; *n* = 9 of 150). Based on our crosstabulation table, that used pairwise deletion (see Table 6), most of the young adults who were shown how to correctly use a condom were female (*n* = 8; 88.9%), Black non-Hispanic (*n* = 4; 44.4%) or Hispanic (*n* = 5; 55.6%), heterosexual (n = 5; 62.5%), not romantically involved (*n* = 6; 66.7%), had not engaged in penile-vaginal or penile-anal sex (*n* = 5; 62.5%), were alone with their healthcare provider the whole time (*n* = 6; 66.7%), and had been asked they were sexually active (*n* = 6; 75.0%). Exploring being demonstrated condom use and young adults romantic and sexual experiences, 9.1% (*n* = 3 of 33) of young adults dating someone and none of those in romantic relationships (*n* = 0 of 55) were shown correct condom use. Similarly, 2.8% (*n* = 3 of 109) of young adults with penile-vaginal and/or penile-anal sex experience were shown correct condom use.

Providing condoms. Few young adults were provided condoms for future use (14.7%; *n* = 22 of 150). Based on our crosstabulation table (see Table 6), most of the young adults who were provided condoms were female (*n* = 20; 90.9%), White non-Hispanic (*n* = 7; 31.8%) or Black non-Hispanic (*n* = 7; 31.8%), heterosexual (*n* = 16; 72.7%), have had penile-vaginal

and/or penile-vaginal sex (*n* = 18; 81.8%), were alone with their healthcare providers for the whole visit (*n* = 15; 68.2%), and were asked if they sexually active (*n* = 21; 95.5%). Exploring being provided condoms and young adults romantic and sexual experiences, 17.6% (*n* = 6 of 34) of young adults who were dating someone and 14.5% (*n* = 8 of 55) of those in romantic relationships were provided condoms. Similarly, 16.5% (*n* = 18 of 109) of young adults who have had penile-vaginal or penile-anal sex were provided condoms.

(Table 6 here)

Condom interaction categories. Using young adults' responses on the items regarding whether condom discussions occurred, correct condom use was demonstrated, and/or condoms were provided we classified them into mutually exclusive groups based (see Table 5). These groups illustrated that most often, healthcare provider-young adult condom interactions are limited to just discussing condoms (55.0%). Fewer young adults reported healthcare providers discussed condoms and demonstrated their correct use (2.5%), discussed and provided condoms (8.7%), or had healthcare providers who discussed, demonstrated, and provided condoms (1.3%).

Discussion

Our results illustrate a complex picture of adolescent and young adult interactions with healthcare providers regarding condom use. On the positive side, when adolescents and young adults do discuss sexual health with healthcare providers, it appears likely that they will discuss condom use. Further, healthcare providers are recommending condom use for both STD and pregnancy prevention. Emphasizing condoms for STD prevention is important because STD prevalence has increased among adolescents and young adults in the past few years (CDC, 2018) even as teen and unintended pregnancy rates have declined (Martin et al., 2019; Finer & Zolna, 2016). These positives, however, must be balanced against the general absence of healthcare

providers demonstrating correct condom usage, providing condoms for future use, or both. This may be best illustrated by our classification of adolescents and young adults based on condom interactions. Just 3.2% (n = 9 of 282) of adolescents and 1.3% (n = 3 of 222) of young adults discussed condom use with a healthcare provider who also demonstrated condom use and provided condoms. It is also important to note that most adolescents and young adults in the 2018 NSSHB had not discussed sexual health with a healthcare provider in the past year. Thus, most adolescents and young adults did not have the opportunity to discuss condom use, learn how to appropriately use condoms, and/or acquire condoms from healthcare providers.

We acknowledge that our results may be indicative of adolescents and young adults telling are their healthcare providers that they already know how to use and where to acquire condoms. That is, while discussing condom use, adolescents and young adults may tell their healthcare providers that they do not need to be shown how to use condoms or be given condoms for future use. It is also possible that during condom use discussions adolescents and young adults tell their healthcare providers that they are not planning or intending to engage in sexually active. Such information may lead providers to decide not to demonstrate correct condom use or provide condoms for future use. It is also possible that adolescents and young adults had discussed condom use during visits that were not within the last year. Even if adolescents and young adults express to healthcare providers that they are confident they know how to use condoms or if condom use discussions have occurred before, we recommend that healthcare providers discuss condom use annually. This recognizes that adolescent sexual behavior, oral and penile-vaginal sex in particular, become more common as adolescents mature.

Factors Associated with Condom Use Discussions

Our analyses focused on how adolescent and young adult characteristics, romantic and sexual experience, and healthcare visit characteristics were associated with the prevalence and content of condom use discussions were limited by how few participants had been shown how to use condoms or provided with condoms. However, our results provide several meaningful insights into what may contribute to if condom use discussions occur and if healthcare providers demonstrate condom use or provide condoms. First, prior penile-vaginal and/or penile-anal sex experience and being asked about one's sexual activity are both associated with being more likely to have discussed condom use with healthcare providers. Further, among the adolescents and young adults who were shown how to correctly use condoms and where provided condoms, most had also been asked if they were sexually active. However, few of the adolescents with prior penile-vaginal and/or penile-anal sex experience where shown how to use condoms or provided with condoms. These findings support the importance and complexity of taking sexual histories during healthcare visits (Burke et al., 2014; Gavin et al., 2014; Marcell & Burstein, 2017). Knowing if adolescents and young adults are sexually active is important for healthcare providers as they decide how to engage with their patients about sexual health topics. However, adolescents and young adults may not always feel comfortable discussing their sexual health with their healthcare providers (Orza et al. 2017). Thus, healthcare providers may not always have complete and accurate information to draw on during sexual health discussions.

It also appears that having sometime alone with healthcare providers, but not being alone for the whole visit, increases the likelihood that adolescents will discuss condom use with healthcare providers. Similarly, most of the adolescents who were shown how to use condoms and those who were provided with condoms also had sometime alone with their healthcare providers. Perhaps healthcare providers are reluctant to discuss sexual health topics with

adolescents when they are unable to ask parents if it is okay for them to do so. Thus, when parents are involved with healthcare visits but then allow adolescents and healthcare providers opportunities for private discussions, adolescents and providers may be more willing to discuss condom use.

Although gender was not associated with whether adolescents or young adults discussed condoms with healthcare providers, among young adults it may influence who is shown how to use condoms and/or provided condoms. Specifically, most of the young adults who reported being shown how to use condoms (88.9%; n = 8 of 9) and provided condoms (90.9%; n = 20 of 22) were women. This pattern is consistent with research illustrating that sexual scripts emphasize that it is women's roles to control contraceptive use (including condoms) in heterosexual sexual experiences (Hurst & Boyce Rodgers, 2019; Tolman, 2002). Healthcare providers may consciously or unconsciously replicate those scripts when discussing sexual health with their patients. We also found that sexual minority young adults were less likely to have discussed condom use with healthcare providers and that sexual minority adolescents and young adults appear unlikely to be shown how to use condoms or provided with condoms. Perhaps, healthcare providers feel unprepared to discuss condoms and sexual health practices with adolescents and young adults with diverse sexual identities (Knight et al., 2014).

Social and Public Policy Implications

Our results also provide insights for sexual health policies and practices within healthcare settings. First, there is a need to normalize sexual and romantic health conversations as a part of routine adolescent and young adult healthcare visits (Grubb et al., 2020). Among both the adolescent and young adult samples, less than half of the participants with past-year healthcare visits had discussed sexual health with their providers. Infrequent sexual health communication

may be reflective of healthcare providers not feeling able, comfortable, or both with taking sexual histories. Previously, researchers have shown that nearly half (44%) of healthcare providers feel inadequately trained to have these types of conversations with adolescents and young adults (Wimberly et al., 2006). This may be why few of the participants who were asked about sexual activity by healthcare providers also reported being shown how to use, or were provided with, condoms. Thus, providing healthcare providers with additional resources and trainings for healthcare providers to learn how to take and use sexual histories with adolescent and young adult patients may be a beneficial strategy to improve sexual health outcomes. When developing training tools and resources for healthcare providers, it will also be important to ensure sexual and gender identity are incorporated in a strengths-based manner. This is particularly important for sexual and gender minority adolescents and young adults who report lower rates of condom use demonstrations.

It is also critical that healthcare providers have repeated conversations about condom use, and sexual health and behavior more broadly. Adolescence and young adulthood are critical periods of sexual development and adolescents' and young adults' sexual experience change in meaningful ways over the course of these developmental stages (e.g., initiating sexual behaviors, maintaining sexual relationships, exploring sexual beliefs and expectations; Fortenberry, 2014; Lefkowitz et al., 2011; Manning et al., 2014). Thus, repeated conversations about sexual health, including condom use, reflects the importance and evolution of sexual development.

Doctors' offices and healthcare clinics may also be places to provide sexual health information outside of the provider-patient interactions. For example, it may be useful to evaluate the efficacy of the Screening, Brief Intervention, and Referral to Treatment (SBIRT; Ozechowski et al., 2016) model to deliver sexual health information, including information about

condom use. Although the SBIRT model has most often been used for substance use prevention and treatment (Bray et al., 2017; Ozechowsi et al., 2016), it could be adapted for use in sexual health promotion, including helping adolescents and young adults learn why they should use condoms, how to do so correctly, and where condoms can be obtained. Delivering such information with a SBIRT approach via a tablet computer may provide a resource for when there is discomfort between providers and their adolescent and young adult patients when it comes to discussing condom use and helping to maintain patient privacy when parents are present. Alternatively, providers could provide adolescents and young adults with other evidence-based resources (e.g., pamphlets, websites, or Apps) that provide condom use education.

Limitations and Future Directions

There are several limitations to the present study. First, our data are focused on healthcare visits in the past-year. It is possible that adolescents and young adults had discussed condoms with healthcare providers during visits that had occurred more than a year ago. We also did not ask if healthcare providers offered to demonstrate condom use or provide condoms and adolescents and young adults declined those offers. Including such items on future studies is needed to have a more comprehensive picture of provider-based condom interactions. We also lack information about where these healthcare visits occurred. Receiving healthcare from a general family medicine office may be different from a provider specializing in adolescent medicine or a college healthcare clinic. We also do not have information about the healthcare providers themselves. Provider characteristics such their specialties (e.g., family medicine, adolescent medicine, or obstetrics and gynaecology) may influence comfort or willingness to provide adolescents and young adults with condom use information. Therefore, an important consideration for future studies is to better understand where, and from whom, adolescents and

young adults receive their healthcare. Additionally, future studies should explore how healthcare experiences about condoms are associated with condom use behaviors. Finally, we were limited in the types of analyses we could conduct for the items about condom use being demonstrated or provided to adolescents and young adults. Because these experiences were infrequent we did not have the statistical power necessary to conduct multivariate analyses like we were able to do with the item about having discussed condom use.

Conclusion

Based on our results, it does appear that when healthcare providers discuss sexual health with adolescents and young adults, condom use is being discussed. However, even though some adolescents and young adults appear to be directed towards condom use as an important aspect of their sexual health, the lack of demonstrations of correct use and providing condoms may mean they are not fully prepared to use condoms in their partnered sexual experiences. Additionally, sexual health conversations may not be a regular part of adolescents' and young adults' healthcare experiences. We suggest that policy efforts should focus on helping healthcare providers develop expertise in obtaining sexual histories and using that information to enhance adolescents' and young adults' sexual health.

Compliance with Ethical Standards

Funding: The NSSHB was funded by Church and Dwight, Inc., who are the makers of Trojan sexual health products.

Conflicts of interest/Competing interests: The authors have no conflicts of interest.

Ethical Approval: The study procedures and measures were approved by the Indiana University's Institutional Review Board.

Statement of Informed Consent: All study participants provided written informed consent.

References

Abma, J. C., & Martinez, G. M. (2017). Sexual activity and contraceptive use among teenages in the United States, 2011-2015. *National Health Statistics Reports*, no 104. National Center for Health Statistics.

Bailey, J. A., Fleming, C. B., Henson, J. N., Catalano, R. F., & Haggerty, K. P. (2008). Sexual risk behavior 6 months post-high school: associations with college attendance, living with a parent, and prior risk behavior, *Journal of Adolescent Health*, *42*(6), 573-579. https://doi.org/10.1016/j.jadohealth.2007.11.138.

Beckmeyer, J. J., Herbenick, D., Fu, T-C., Dodge, B., & Fortenberry, J. D. (2020). Prevalence of romantic experiences among 14 to 17 year-olds: Implications for the primary care setting. *Clinical Pediatrics*, *59*(1), 116-126. https://doi.org/10.1177/0009922819885659

Branum, A. M., & Jones, J. (2015). Trends in long-acting reversible contraception use among U.S. women aged 15-44, *NCHS Data Brief no 188*. National Center for Health Statistics.

Bray, J. W., Del Boca, F. K., McRee, B. G., Hayashi, S. W., Babor, T. F. (2017). Screening, brief intervention and referral to treatment (SBIRT): Rationale, program overview and cross-site evaluation. *Addiction,112*(suppl. 2), 3-11. https://doi.org/10.1111/add.13676.

Burke, P. J., Coles, M. S., Meglio, G. D., Gibson, E. J., Handschin, S. M., Lau, M., Marcell, A. V., Tebb, K. P., & Urbach, K. (2014). Sexual and reproductive health care: A position paper of the society for adolescent health and medicine, *Journal of Adolescent Health*, *54*(4), 491-496. https://do.org/:10.1016/j.jadohealth.2014.0.1.010

Centers for Disease Control and Prevention (2018). *Sexually Transmitted Disease Surveillance 2017*. U.S, Department of Health and Human Services

Copen, C. E. (2017). Condom use during sexual intercourse among women and men aged 15-44 in the United States: 2011-2015 National Survey of Family Growth. *National Health Statistics Reports*, no 105. National Center for Health Statistics.

Crosby, R. A., Sanders, S. A., Yarber, W. L., Graham, C. A., & Dodge, B. (2002). Condom use errors and problems among college men. *Sexually Transmitted Diseases, 29*(9), 552-557.

Donaldson, A. A., Lindberg, L. D., Ellen. J. M., & Marcell, A. V. (2013). Receipt of sexual health information from parents, teachers, and healthcare providers by sexually experienced U.S. adolescents, *Journal of Adolescent Health, 53*(2), 235-240. http://dx.doi.org/10.1016/j.jadohealth.2013.03.017.

Eisenberg, M. E., Bearinger, L. H., Sieving, R. E., Swain, C., & Resnick, M. D. (2004). Parents' beliefs about condoms and oral contraceptives: Are they medically accurate? *Perspectives on Sexual and Reproductive Health*, *36*(2), 50-57. https://doi.org/10.1111/j.1931-2393.2004.tb00008.x

Elliot, S. (2010). 'If I could really say that and get away with it!' Accountability and ambivalence in American parents' sexuality lessons in the age of abstinence. *Sex Education*, *10*(3), 239-250, https://doi.org/10.1080/14681811.2010.491630

Emmers-Sommer, T. M., Nebel, S., Allison, M-L., Cannella, M. L., Cartmill, D., Ewing, S., Horvath, D., Osborne, J. K., & Wojtaszek, B., (2009). Patient–provider communication about sexual health: the relationship with gender, age, gender-stereotypical beliefs, and perceptions of communication inappropriateness. *Sex Roles*, *60*(9-10), 669-681. https://doi.org/10.1007/s11199-008-9577-1

Everett, B. G. (2013). Sexual orientation disparities in sexually transmitted infections: examining the intersection between sexual identity and behavior. *Archives of Sexual Behavior, 42*(2), 225-236, https://doi.org/10.1007/s10508-012-9902-1

Everett, B. G., McCabe, K. F., & Hughes, T. L. (2017). Sexual orientation disparities in mistimed and unwanted pregnancy among adult women. *Perspectives on Sexual and Reproductive Health, 49*(3), 157-165, https://doi.org/ *10.1363/psrh.12032*

Farringdon, F., Holgate, C., McIntyre, F., & Bulsara, M. (2014). A level of discomfort! Exploring the relationship between maternal sexual health knowledge, religiosity and comfort discussing sexual health issues with adolescents, *Sexuality Research and Social Policy, 11*(1), 95-103. https://doi.org/10.1007/s13178-013-0122-9

Finer, L. B., & Zolna, M. R. (2016). Declines in unintended pregnancy in the United States, 2008-2011. *New England Journal of Medicine*, *374*, 843-852. https://doi.org/10.1056/NEJMsa1506575.

Ford, C., English, A., & Sigman, G. (2004). Confidential health care for adolescents: position paper of the Society for Adolescent Medicine. *Journal of Adolescent Health, 35*(2), 160-167. https://doi.org/10.1016/j.jadohealth.2004.03.002

Fortenberry, J. D. (2014). Sexual learning, sexual experience, and health adolescent sex. *New Directrions for Child and Adolescent Development*, *144*, 71-86. https://doi/10.1002/cad.20061.

Frost, J. J., Lindberg, L. D., & Finer, L. B. (2012). Young adults' contraceptive knowledge, norms and attitudes: associations with risk of unintended pregnancy. *Perspectives on Sexual and Reproductive Health, 44*(2), 107-116. https://doi.org/10.1363/4410712

Fuzzell, L., Shields, C. G., Alexander, S. C., & Fortenberry, J. D. (2017). Physicians talking about sex, sexuality, and protection with adolescents. J*ournal of Adolescent Health, 61*(1), 6–23. https://doi.org/10.1016/j.jadohealth.2017.01.017

Gavin, L., Moskosky, S., Cartner, M., Curtis, K., Glass, E., Godfrey, E., Marcell, A., Mautone-Smith, N., Pazol, K., Tepper, N., & Zapata, L. (2014). Providing quality family planning services: Recommendations of the CDC and the U.S. office of population affairs. *Morbidity and Mortality Weekly Report*, *63*(4), 1-54. https://www.jstor.org/stable/10.2307/24832591

Goldman, J. D. G., & Bradley, G. L. (2004). Parents as sexuality educators of their children in the technological age. *Journal of Psychologists and Counsellors in Schools, 14*(2), 233-250, https://doi.org/10.1017/S1037291100002533

Grossman, J. M., Charmaraman, L., & Erkut, S. (2013). Do as I say, not as I did: How parents talk with early adolescents about sex. *Journal of Family Issues, 37*(2), 177-197. https://doi.org/10.1177/0192513X13511955

Grubb, L. K., Powers, M., AAP Committee on Adolescence (2020). Emerging issues in male adolescent sexual and reproductive health care. *Pediatrics, 145*(5), e20200627. https://doi.org/10.1542/peds.2020-0627

Guss, C. E., Wunsch, C. A., McCulloh, R., Donaldson, A., & Alverson, B. K. (2015). Using the hospital as a venue for reproductive health interventions: A survey of hospitalized adolescents. *Hospital Pediatrics, 5*(2), 67-73. https://doi.org/10.1542/hpeds.2014-0043

Guttmacher Institute (2019). *Sex and HIV Education*. Guttmacher Center for Population Research Innovation and Dissemination. https://www.guttmacher.org/state-policy/explore/sex-and-hiv-education

Holway, G. V., Brewster, K. L., & Tillman, K. H. (2020). Condom use at first vaginal intercourse among adolescents and young adults in the United States, 2002-2017. *Journal of Adolescent Health, 67*(4), 6060-608. https://doi.org/10.1016/j.jadohealth.2020.03.034

Ito, K. E., Gizlice, Z., Owen-O'Dowd, J., Foust, E., Leone, P. A., & Miller, W. C. (2006). Parent opinion of sexuality education in a state with mandated abstinence education: does policy match parental preference? *Journal of Adolescent Health, 39*(5), 634-641. https://doi.org/10.1016/j.jadohealth.2006.04.022

Jerman, P., & Constantine, N. A. (2010). Demographic and psychological predictors of parent-adolescent communication about sex: A representative statewide analysis, *Journal of Youth and Adolescence, 39*(10), 1164-1174. https://doi.org/10.1007/s10964-010-9546-1

King, B. M., Scott, A. E., Van Doorn, E. M., Abele, E. E., & McDevitt, M. E. (2020). Reasons students at a US University do or do not enroll in a human sexuality course. *Sex Education, 20*(1), 101-109. https://doi.org/10.1080/14681811.2019.1606793

Knight, R. E., Shoveller, J. A., Carson, A. M., & Contreras-Whitney, J. G. (2014). Examining clinicians' experiences providing sexual health services for LGBTQ youth: Considering social and structural determinants of health in clinical practice. *Health Education Research, 29*(4), 662-670. https://doi.org/10.1093/her/cyt116

Lefkowitz, E. S., Gillen, M. M., & Vasilenko, S. A. (2011). Putting the romance back into sex: Sexuality in romantic relationships. In F. D. Fincham & M. Cui (Eds.) *Romantic Relationships in Emerging Adulthood* (pp. 213-233). Cambridge University Press

Liddon, N., Pampati, S., Steiner, R. J., Hensel, D. J., Fu, T-C., Beckmeyer, J., & Herbenick, D. (2021). *Journal of Adolescent Health, 68*(3), 623-625. https://doi.org/10.1016/j.jadohealth.2020.07.005

Lindberg, L. D., Maddow-Zimet, I., & Boonstra, H. (2016). Changes in adolescents' receipt of sex education, 2006-2013, *Journal of Adolescent Health*, *58*(6), 621-627. https://doi.org/10.1016/j.jadohealth.2016.02.004

Mackin, M. L., & Perkhounkova, Y. (2019). Development of the test of adolescent sexual knowledge based on the national sexuality education standards and results of pilot testing. *American Journal of Sexuality Education, 14*(2), 212-232. http://dx.doi.org/10.1080/15546128.2018.1548990

Marcell, A. V., Burstein, G. R., & Committee on Adolescence. (2017). Sexual and reproductive health care services in the pediatric setting. *Pediatrics*, *140*(5): e20172858, http://doi.org/10.1542/peds.2017-2858

Manning, W. D., Longmore, M. A., Copp, J., & Giordano, P. C. (2014). The complexities of adolescent dating and sexual relationships: Fluidity, meanings(s), and implications for young adults' well-being. *New Directions for Child and Adolescent Development*, *144*, 53-69. https://doi.org/10.1002/cad.20060

Martin, J. A., Hamilton, B. E., Osterman, M. J. K., & Driscoll, A. K. (2019). Births: Final data for 2018. *National Vital Statistics Report*, *68*(13), 1-47. https://stacks.cdc.gov/view.cdc/82909

Martinez, G. M., & Abma, J. C. (2020). Sexual activity and contraceptive use among teenages age 15-19 in the United States, 2015-2017. *NCHS Data Brief,* no. 366. National Center for Health Statistics.

Middleman, A. B., & Olson, K. A. (2019). Confidentiality in adolescent health care. *UpToDate.* http://www.uptodate.com/contents/confidentiality-in-adolescent-health-care

National Center for HIV/AIDS, Viral Hepatitis, STD, & TB Prevention (2019). *Trends in the prevalence of sexual behavior and HIV testing, National YRBS: 1991–2015*. https://www.cdc.gov/healthyyouth/data/yrbs/pdf/ trends/2015_ussexual_trend_yrbs.

Ohalete, N., Georges, J., & Doswell, W. (2010). Tales from the "hood:" placing reproductive health communication between African American fathers and children in context. *Association of Black Nursing Faculty*, *21*(1), 14-20.

Orza, L., Crone, T., Mellin, J., Westerhof, N., Stackpool-Moore, L., Restoy, E., Gray, G., Stevenson, J. (2017). Searching for the second R in sexual and reproductive health and … rights. *Journal of Adolescent Health, 60*(2), s10-s14. https://doi.org/10.1016/j.jadohealth.2016.11.006

Oswalt, S. B., Wagner, L. M., Eastman-Mueller, H. P., & Nevers, J. M. (2015). Pedagogy and content in sexuality education courses in US colleges and universities. *Sex Education, 15*(2), 172-187. https://doi.org/10.1080/14681811.2014.991958

Ozechowski, T. J., Becker, S. J., & Hogue, A. (2016). SBIRT-A: Adapting SBIRT to maximize developmental fit for adolescents in primary care. *Journal of Substance Abuse Treatment, 62*(1), 28-37. https://doi.org/10.1016/j.jsat.2015.10.006

Paz-Bailey, G., Koumans, E. H., & Sternberg, M. (2005). The effect of correct and consistent condom use on chlamydial and gonococcal infection among urban adolescents, *Archives of Pediatric and Adolescent Medicine, 159*(6), 536-542. https://doi.org/10.1001/archpedi,159.6.536

Pop, M. V., & Rusu, A. S. (2015). The role of parents in shaping and improving the sexual health of children – Lines of developing parental sexuality education programmes. *Procedia -*

Social and Behavioral Sciences, *209*, 395-401. https://doi.org/10.1016/j.sbspro.2015.11.210

Rye, B. J., Mashinter, C., Meaney, G. J., Wood, E., & Gentile, S. (2014). Satisfaction with previous sexual health education as a predictor of intentions to pursue further sexual health education, *15*(1), 93-107. https://doi.org/10.1080/14681811.2014.967389

Same, R. V., Bell, D. L., Rosenthal, S., & Marcell, A. V. (2014). Sexual and reproductive health care: Adolescent and adult men's willingness to talk and preferred approach. *American Journal of Preventive Medicine, 47*(2), 175-181. https://10.1016/j.amepre.2014.03.009

Santa Maria, D., Guilamo-Ramos, V., Jemmott, L. S., Derouin, A., Villarruel, A. (2017). Nurses on the front lines: Improving adolescent sexual and reproductive health across health care settings. *The American Journal of Nursing*, *117*(1), 42-51. https://doi.org/10.1097/01.NAJ.0000511566.12446.45

Satterwhite, C. L., Torrone, E., Meites, E., Dunne, E., Mahajan, R., Ocfemia, M. C. B., Su, J., Xu, F., & Weinstock, H. (2013). Sexually transmitted infections among US women and men: Prevalence and incidence estimates, 2008. *Sexually Transmitted Diseases*, *40*(3), 187-193. https://doi.org/ 10.1097/ OLQ.0b013e318286bb53

Stoffel, C., Carpenter, E., Everett, B., Higgins, J., & Haider, S. (2017). Family planning for sexual minority women. *Seminars in Reproductive Medicine*, *35*(5), 460-468. https://doi.org/ 10.1007/s10508-012-9902-1

Tornello, S. L., Riskind, R. G., & Patterson C. J. (2014). Sexual orientation and sexual and reproductive health among adolescent young women in the United States. *Journal of Adolescent Health, 54*(2), 160-168. https://dx.doi.org/10.1016/j.jadohealth.2013.08.018.

Walker, T. Y., Elam-Evans, L. D., Yankey, D., Markowitz, L. E., Williams, C. L., Fredua, B., Singleton, J. A., & Stokely, S. (2019). National, regional, state, and selected local area vaccination coverage among adolescents aged 13-17 years – United States, 2018. *Morbidity and Mortality Weekly Report*, *68*(33), 718-723. https://dx.doi.org/10.15585/mmwr.mm6833a2external icon

Warner, L., Newman, D. R., Austin, H. D., Kamb, M. L., Douglas, J. M., Malotte, C. K., Zenilman, J. M., Rodgers, J., Bolan, G., Fishbein, M., Kleinbaum, D. G., Macaluso, M., & Peterman, T. A. (2004). Condom effectiveness for reducing transmission of gonorrhea and chlamydia: The importance of assessing partner infection status. *American Journal of Epidemiology*, *159*(3), 242–251. https://doi.org/10.1093/aje/kwh044

Wimberly, Y. H., Hogben, M., Moore-Ruffin, J., Moore, S. E., & Fry-Johnson, Y. (2006). Sexual history-taking among primary care physicians. *Journal of the National Medical Association*, *98*(12), 1924-1929.

Witwer, E., Jones, R., & Lindberg L. (2018). *Sexual Behavior and Contraceptive and Condom Use Among U.S. High School Students, 2013–2017.* Guttmacher Institute. https://doi.org/10.1363/2018.29941

Table 1.

Demographic and Descriptive Statistics of Adolescents and Young Adults Who Discussed Sexual Health with a Healthcare Provider in the Last Year.

	Adolescents[a] (*N* = 283)	Young Adults[b] (*N* = 225)
	n (%) or *M* (*SD*)	*n* (%) or *M* (*SD*)
Age	15.67 (1.11)	20.82 (1.96)
Race/ethnicity		
White non-Hispanic	132 (46.5%)	107 (47.5%)
Black non-Hispanic	36 (12.7%)	34 (15.3%)
Other race non-Hispanic	16 (5.8%)	22 (9.6%)
Hispanic	88 (31.1%)	57 (25.3%)
Multiracial non-Hispanic	11 (3.9%)	5 (2.4%)
Gender		
Male	127 (45.0%)	67 (29.9%)
Female	153 (54.0%)	157 (69.8%)
Transgender or gender non-binary	3 (0.1%)	1 (0.3%)
Sexual identity		
Heterosexual	265 (93.7%)	184 (81.9%)
Gay or lesbian	4 (1.5%)	10 (4.5%)
Bisexual	14 (4.9%)	24 (10.6%)
Asexual	0 (0.0%)	4 (2.0%)
Another sexual identity not listed	0 (0.0%)	2 (1.1%)
Parents are married[c]	221 (78.2%)	-
Educational attainment[d]		
Less than high school	-	23 (10.3%)
High school	-	77 (34.2%)
Some college	-	103 (45.7%)
Bachelor’s degree or higher	-	22 (9.8%)
Current romantic involvement		
Single, not dating	209 (73.8%)	99 (44.1%)

Dating, hanging out with someone	51 (18.1%)	39 (17.3%)
In a romantic relationship	23 (8.0%)	87 (38.6%)
Has had penile-vaginal or penile-anal sex		
Yes	51 (18.2%)	143 (63.7%)
No	230 (81.3%)	72 (32.1%)
Did not answer	1 (0.5%)	9 (4.2%)
During visit …		
Parent was in room whole time	108 (38.0%)	21 (9.3%)
Alone with healthcare provider the whole time	40 (14.2%)	180 (80.1%)
Alone with healthcare provider part of the time, parent was present part of the time	143 (47.2%)	24 (10.5%)
Did not answer	2 (0.6%)	0 (0.0%)
Did healthcare provider ask if you were sexually active		
Yes	244 (86.1%)	202 (90.1%)
No	27 (9.4%)	10 (4.4%)
Don’t remember	13 (4.5%)	11 (4.7%)
Did not answer	0 (0.0%)	2 (0.8%)
Did healthcare provider talk with you about condoms		
Yes	201 (71.0%)	150 (66.7%)
No	82 (29.0%)	72 (32.0%)
Did not answer	0 (0.0%)	3 (1.3%)

Notes. [a]Overall weighted adolescent sample size = 826. [b]Overall weighted young adult sample = 618. [c]Not asked of young adults. [d]Not asked of adolescents.

Table 2.

Logistic Regression Models for Having Discussed Condom Use with a Healthcare Provider.

	Adolescents (*n* = 281)				Young Adults (*n* = 215)			
	B	SE	OR	95% CI	B	SE	OR	95% CI
Age	0.09	0.14	1.10	[0.84, 1.43]	-0.26	0.10	0.77**	[0.63, 0.94]
Race/Ethnicity[a]								
Black non-Hispanic	0.95	0.56	2.59	[0.87, 7.71]	0.02	0.53	1.02	[0.36, 2.89]
Other non-Hispanic	1.17	0.84	3.22	[0.63, 16.60]	-1.03	0.56	0.36	[0.12, 1.08]
Hispanic	0.07	0.32	1.07	[0.57, 2.01]	1.25	0.53	3.50*	[1.23, 9.95]
Multiracial non-Hispanic	1.03	0.97	2.80	[0.42, 18.90]	-2.32	1.18	0.10	[0.01, 1.00]
Gender[b]								
Female	-0.57	0.31	0.57	[0.31, 1.03]	-0.12	0.43	0.89	[0.38, 2.04]
Transgender or gender non-binary								
Gay or lesbian or bisexual	-0.66	0.58	0.52	[0.17, 1.61]	-1.00	0.50	0.37*	[0.14, 0.97]
Married parents	-0.09	0.40	0.91	[0.42, 2.01]				
Educational attainment[c]								
High school					-0.75	0.84	0.47	[0.09, 2.47]
Some college					-1.26	0.85	0.29	[0.05, 1.51]
Bachelor’s degree or higher					-1.26	1.00	0.28	[0.04, 2.01]
Current romantic involvement[d]								
Dating or hanging out with someone	0.27	0.44	1.31	[0.55, 3.11]	0.99	0.61	2.69	[0.82, 8.88]
In romantic relationship	-0.17	0.63	0.84	[0.24, 2.89]	-0.16	0.42	0.86	[0.38, 1.93]

Has had penile-vaginal and/or penile-anal sex	1.30	0.52	3.66*	[1.33, 10.10]	1.38	0.42	3.99**	[1.75, 9.10]
During healthcare visits …[e]								
Alone with provider the whole time	0.46	0.45	1.58	[0.65, 3.84]	0.91	0.79	2.48	[0.52, 11.78]
Alone with provider part of the time	0.80	0.32	2.22*	[1.19, 4.15]	1.17	0.91	3.21	[0.54, 19.06]
Healthcare provider asked if sexually active	0.94	0.41	2.56*	[1.16, 5.68]	0.01	0.56	1.01	[0.34, 3.03]
$\chi 2$(df)	38.77(14)***				49.74(16)***			

Notes. [a]White non-Hispanic is the referent group. [b]Male or transgender is the referent group. [c]Less than high school is the referent group. [d]Single is the referent group. [e]Parent or guardian in the room the whole time is the referent group. *$p < .05$, **$p < .01$, ***$p < .001$.

Table 3.

Reasons Healthcare Providers Recommended Condom Use.

	Adolescents (*n* = 201)	Young Adults (*n* = 150)
	n (%)	*n* (%)
Healthcare provider recommended condoms for …		
STD prevention	8 (4.0%)	12 (8.0%)
Pregnancy prevention	10 (5.0%)	12 (8.0%)
STD and pregnancy prevention	173 (86.0%)	114 (76.0%)
Recommended but did not say why	6 (3.0%)	2 (1.3%)
Other reason	0 (0.0%)	2 (1.3%)
I don’t remember	3 (1.5%)	9 (6.0%)

Table 4.

Adolescent Descriptive Statistics for Healthcare Providers Demonstrating Condom Use or Providing Condoms.

	Demonstrated condom use			Provided condoms		
	Yes	No	Don't Remember	Yes	No	Don't Remember
	n (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)
All adolescents[a]	23 (11.4%)	173 (86.1%)	4 (2.0%)	30 (14.9%)	165 (58.3%)	5 (2.5%)
Race/Ethnicity						
White non-Hispanic	8 (33.3%)	76 (44.2%)	3 (100.0%)	8 (27.6%)	78 (47.0%)	1 (25.0%)
Black non-Hispanic	5 (20.8%)	25 (14.5%)	0 (0.0%)	7 (24.1%)	21 (12.7%)	2 (50.0%)
Other non-Hispanic	2 (8.3%)	13 (7.6%)	0 (0.0%)	5 (17.2%)	10 (6.0%)	0 (0.0%)
Hispanic	7 (29.2%)	13 (29.7%)	0 (0.0%)	8 (6.0%)	50 (30.1%)	0 (0.0%)
Multiracial non-Hispanic	2 (8.3%)	7 (4.1%)	0 (0.0%)	1 (3.4%)	7 (4.2%)	1 (25.0%)
Gender						
Male	10 (43.5%)	86 (50.0%)	2 (50.0%)	14 (48.3%)	79 (47.6%)	5 (100.0%)
Female	13 (56.5%)	85 (49.4%)	2 (50.0%)	14 (48.3%)	86 (52.1%)	0 (0.0%)
Transgender or gender non-binary	0 (0.0%)	1 (0.6%)	0 (0.0%)	1 (3.4%)	0 (0.0%)	0 (0.0%)
Sexual identity						
Heterosexual	23 (100.0%)	161 (93.6%)	4 (100.0%)	26 (86.7%)	158 (95.8%)	5 (100.0%)
Gay or lesbian	0 (0.0%)	4 (2.3%)	0 (0.0%)	4 (13.3%)	0 (0.0%)	0 (0.0%)
Bisexual	0 (0.0%)	7 (4.1%)	0 (0.0%)	0 (0.0%)	7 (4.2%)	0 (0.0%)
Married parents						

Parents are married	17 (73.9%)	137 (79.7%)	4 (100.0%)	23 (76.7%)	130 (82.3%)	5 (100.0%)
Parents are not married	6 (26.1%)	35 (20.3%)	0 (0.0%)	7 (23.3%)	35 (21.2%)	0 (0.0%)
Current romantic involvement						
Single	16 (69.6%)	122 (70.5%)	2 (66.7%)	21 (70.0%)	116 (70.3%)	4 (80.0%)
Dating or hanging out with someone	5 (21.7%)	36 (20.8%)	1 (33.3%)	8 (26.7%)	33 (20.0%)	1 (20.0%)
In romantic relationship	2 (8.7%)	15 (8.7%)	0 (0.0%)	1 (3.3%)	16 (9.7%)	0 (0.0%)
Has had penile-vaginal or penile-anal sex						
Yes	2 (8.7%)	40 (23.3%)	2 (50.0%)	8 (26.7%)	36 (21.8%)	1 (20.0%)
No	21 (91.3%)	132 (76.7%)	2 (50.0%)	22 (73.3%)	129 (78.2%)	4 (80.0%)
During healthcare visits …						
Parent or guardian was in the room the whole time	7 (30.4%)	56 (37.2%)	2 (50.0%)	8 (27.6%)	54 (33.1%)	2 (50.0%)
Alone with provider the whole time	1 (4.3%)	27 (15.8%)	0 (0.0%)	5 (17.2%)	23 14.1%)	0 (0.0%)
Along with provider part of the time	15 (65.2%)	88 (51.5%)	2 (50.0%)	16 (55.2%)	86 (52.8%)	2 (50.0%)
Healthcare provider asked if you were sexually active						
Yes	19 (82.6%)	158 (91.3%)	2 (66.7%)	28 (96.6%)	147 (89.1%)	3 (75.0%)
No	4 (17.4%)	15 (8.7%)	1 (8.7%)	1 (3.4%)	18 (10.9%)	1 (25.0%)

Notes. [a]One adolescent did not answer either of these follow-up questions. Crosstabulations used pairwise deletion.

Table 5.

Mutually Exclusive Groups Categorizing Adolescents' and Young Adults' Interactions with Healthcare Providers about Condom Use.

	Adolescents (*n* = 282)	Young Adults (*n* = 222)
	n (%)	*n* (%)
Did not discuss condom use with healthcare provider	82 (29.2%)	72 (32.5%)
Only discussed condom use	155 (55.1%)	122 (55.0%)
Discussed condom use *and* demonstrated appropriate use	15 (5.2%)	6 (2.5%)
Discussed condom use *and* provided condoms	21 (7.4%)	19 (8.7%)
Discussed, demonstrated, *and* provided condoms	9 (3.2%)	3 (1.3%)

Notes. Limited to adolescents and young adults who discussed sexual health with a healthcare provided and had complete data on condom interaction items.

Table 6.

Young Adult Descriptive Statistics for Healthcare Providers Demonstrating Condom Use or Providing Condoms.

	Demonstrated condom use			Provided condoms		
	Yes	No	Don't Remember	Yes	No	Don't Remember
	n (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)
All young adults	9 (6.0%)	140 (93.3%)	1 (0.07%)	22 (14.7%)	127 (84.7%)	1 (0.07%)
Race/Ethnicity						
White non-Hispanic	0 (0.0%)	69 (48.9%)	0 (0.0%)	7 (31.8%)	61 (48.0%)	1 (100.0%)
Black non-Hispanic	4 (44.4%)	20 (14.2%)	0 (0.0%)	7 (31.8%)	17 (13.4%)	0 (0.0%)
Other non-Hispanic	0 (0.0%)	10 (7.1%)	0 (0.0%)	4 (18.2%)	6 (4.7%)	0 (0.0%)
Hispanic	5 (55.6%)	39 (27.7%)	1 (100.0%)	4 (18.2%)	40 (31.5%)	0 (0.0%)
Multiracial non-Hispanic	0 (0.0%)	3 (2.1%)	0 (0.0%)	0 (0.0%)	3 (2.4%)	0 (0.0%)
Gender						
Male	0 (0.0%)	48 (34.0%)	1 (100.0%)	2 (9.1%)	47 (37.3%)	0 (0.0%)
Female	8 (100.0%)	93 (66.0%)	0 (0.0%)	20 (90.9%)	79 (62.7%)	1 (100.0%)
Sexual identity						
Heterosexual	5 (62.5%)	120 (85.7%)	1 (100.0%)	16 (72.7%)	109 (85.8%)	1 (100.0%)
Gay or lesbian	1 (12.5%)	4 (2.9%)	0 (0.0%)	3 (13.6%)	2 (1.6%)	0 (0.0%)
Bisexual	0 (0.0%)	15 (10.7%)	0 (0.0%)	2 (9.1%)	14 (11.0%)	0 (0.0%)
Asexual	0 (0.0%)	1 (0.7%)	0 (0.0%)	1 (4.5%)	0 (0.0%)	0 (0.0%)
Another sexual identity not listed	2 (25.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (1.6%)	0 (0.0%)

Educational attainment						
Less than high school	2 (25.0%)	16 (11.3%)	0 (0.0%)	5 (22.7%)	14 (11.1%)	0 (0.0%)
High school	5 (62.5%)	52 (36.4%)	0 (0.0%)	6 (27.3%)	51 (40.5%)	0 (0.0%)
Some college	0 (0.0%)	63 (44.7%)	1 (100.0%)	10 (45.5%)	53 (42.1%)	0 (0.0%)
Bachelor's degree or higher	1 (12.5%)	10 (7.1%)	0 (0.0%)	1 (4.5%)	8 (6.3%)	1 (100.0%)
Current romantic involvement						
Single	6 (66.7%)	55 (39.3%)	1 (100.0%)	9 (39.1%)	53 (41.7%)	0 (0.0%)
Dating or hanging out with someone	3 (33.3%)	30 (21.45)	0 (0.0%)	6 (26.1%)	28 (22.0%)	0 (0.0%)
In romantic relationship	0 (0.0%)	55 (39.3%)	0 (0.0%)	8 (34.8%)	46 (36.2%)	1 (100.0%)
Has had penile-vaginal or penile-anal sex						
Yes	3 (37.5%)	105 (76.6%)	1 (100.0%)	18 (81.8%)	90 (82.6%)	1 (100.0%)
No	5 (62.5%)	32 (23.4%)	0 (0.0%)	4 (18.2%)	32 (26.25)	0 (0.0%)
During healthcare visits …						
Parent or guardian was in the room the whole time	3 (33.3%)	11 (7.9%)	0 (0.0%)	0 (0.0%)	14 (11.0%)	0 (0.0%)
Alone with provider the whole time	6 (66.7%)	112 (80.0%)	1 (100.0%)	15 (68.2%)	103 (81.1%)	1 (100.0%)
Alone with provider part of the time	0 (0.0%)	17 (12.6%)	0 (0.0%)	7 (31.8%)	10 (7.9%)	0 (0.0%)
Healthcare provider asked if you were sexually active						
Yes	6 (75.0%)	131 (92.9%)	1 (100.0%)	21 (95.5%)	115 (91.3%)	1 (100.0%)
No	2 (25.0%)	10 (7.1%)	0 (0.0%)	1 (4.5%)	11 (8.8%)	0 (0.0%)

Notes. Crosstabulations used pairwise deletion.