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A Qualitative Analysis of Adolescent and Caregiver Acceptability of Universally Offered Gonorrhea and Chlamydia Screening in the Pediatric Emergency Department

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Abstract

Study objective: We qualitatively explore adolescent and parent or guardian attitudes about benefits and barriers to universally offered gonorrhea and chlamydia screening and modalities for assessing interest in screening in the pediatric emergency department (ED).

Methods: A convenience sample of forty 14- to 21-year-olds and parents or guardians of adolescents presenting to an urban and community pediatric ED with any chief complaint

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participated in individual, semistructured, confidential interviews. Topics included support of universally offered gonorrhea and chlamydia screening, barriers and benefits to screening, and modalities for assessing interest in screening. Data were analyzed with framework analysis.

Results: Almost all adolescents (37/40; 93%) and parents (39/40; 98%) support offering ED gonorrhea or chlamydia screening. Benefits included earlier diagnosis and treatment, convenience and transmission prevention (cited by both groups), and improved education and long-term health (cited by parents/guardians). Barriers included concerns about confidentiality and cost (cited by both groups), embarrassment (cited by adolescents), and nondisclosure to parents or guardians (cited by parents/guardians). Adolescents preferred that the request for gonorrhea or chlamydia screening be presented in a private room, using tablet technology. Both groups noted that the advantages to tablets included confidentiality and adolescents' familiarity with technology. Adolescents noted that tablet use would address concerns about bringing up gonorrhea or chlamydia screening with clinicians, whereas parents or guardians noted that tablets might increase screening incidence but expressed concern about the lack of personal interaction.

Conclusion: Universally offered gonorrhea and chlamydia screening in a pediatric ED was acceptable to the adolescents and parents or guardians in this study. Offering a tablet-based method to assess interest in screening may increase participation.

INTRODUCTION

Background

More than 19 million new sexually transmitted infections are diagnosed annually in the United States, with nearly half occurring in individuals aged 15 to 24 years.[1] Untreated sexually transmitted infections may have serious long-term consequences, including pelvic inflammatory disease, chronic pelvic pain, and infertility. This epidemic in adolescents and young adults contributes to patient recidivism (repeated infections), health care costs relating to morbidity and mortality associated with these diagnoses, and increased HIV and other sexually transmitted infection transmission within the community.[2-4] Therefore, interventions such as improved screening and treatment programs are urgently needed to more effectively decrease sexually transmitted infection rates among adolescents and young adults.[5-7]

Importance

The Centers for Disease Control and Prevention recommends annual chlamydia and gonorrhea screening for all sexually active adolescent girls and boys in high-risk settings.[8] However, many adolescents lack a medical home and thus are one of the most difficult populations to reach for screening.[9] The emergency department (ED) setting is frequented by this high-risk population, many of whom would not otherwise obtain health care.[10-13] In our institution's urban pediatric ED, adolescents compose approximately 20% of the visits. Up to 10% of all adolescents receive gonorrhea or chlamydia testing because they are symptomatic and approximately 30% test positive for at least one sexually transmitted infection, but asymptomatic adolescents are not routinely screened for gonorrhea or chlamydia. A previous study at our institution demonstrated that almost 10% of patients who were asymptomatic but screened for gonorrhea or chlamydia in the pediatric ED setting

tested positive for gonorrhea, chlamydia, or both.[14] Therefore, it is likely that there are more asymptomatic gonorrhea or chlamydia cases coming through the ED that are missed than symptomatic ones, which suggests that there are missed opportunities to prevent gonorrhea or chlamydia in this high-risk population by screening asymptomatic individuals.[15-18]

Expert consensus indicates that research addressing the effectiveness, sustainability, and integration of innovative sexually transmitted infection screening programs in the ED is warranted.[19,20] Essential components of a confidential, universally offered gonorrhea and chlamydia screening process in the ED include acceptance by ED staff, patients, and parents or guardians; reliable follow-up and treatment methods for the patient and his or her partners; and excellent communication of gonorrhea or chlamydia results to ED patients.[21-23] Although a previous quantitative study showed a high percentage of gonorrhea and chlamydia screening acceptance among adolescents in a research setting, a significant gap remaining in the literature is qualitative information in regard to adolescent and parent or guardian acceptance of confidential, universally offered gonorrhea or chlamydia screening and their beliefs about the feasibility of this process implemented in routine clinical care in ED settings.[24]

Adolescents cite concerns for confidentiality and privacy as a potential barrier to disclosing sensitive health information in the clinical setting.[25] Obtaining consent or assent confidentially in the ED for gonorrhea or chlamydia screening can be challenging because of space and privacy issues, difficulty separating a patient from the parent or guardian in an acute setting, and time constraints. Tablet-based interventions may address some of these barriers because adolescents report a preference for sharing sensitive health information electronically rather than in face-to-face interviews.[26, 27]

Goals of This Investigation

The objective of this study is to qualitatively explore adolescent and parent or guardian attitudes about benefits and barriers of offering gonorrhea and chlamydia screening to all adolescents in the pediatric ED, as well as the modality of testing; specifically, the acceptability of using a tablet to collect confidential information about risk factors and agreement to screening.

MATERIALS AND METHODS

Study Design and Setting

This was a qualitatively designed study that was conducted in 2 of our institution's pediatric EDs. The first is the main ED, which is an urban, tertiary care, pediatric ED with 87,000 ED visits per year; approximately 20% of the visits are from adolescents aged 14 to 21 years. The second is the satellite pediatric ED, which is located in a northern suburb and has 34,000 annual visits; approximately 13% of the visits are from adolescents aged 14 to 21 years.

Selection of Participants

Male and female adolescents aged 14 to 21 years who presented to the ED with any chief complaint and parents or guardians of 14- to 21-year-olds were eligible to participate. Despite that the 18- to 21-year-old population was considered adult, most adolescent subspecialists and many pediatric EDs care for patients who are aged 18 years or older. At our institution, this 18- to 21-year-old population composes 20% of our total adolescent and young adult population; thus, it was important to include this age group in our sample. Because this age group often visits the ED in the presence of their parent(s) and they are often still covered under their parents' insurance, we included parents of patients aged 18 years or older as well. The parent was assigned to the subgroup according to the age of the child he or she accompanied to the ED during that visit. We did not collect information from dyads; thus, a parent and his or her child did not have to participate as a pair. In our institutions' EDs, patients are triaged according to the validated Emergency Severity Index.[28] Patients are triaged from levels 1 to 5, 1 being "critical" and 5 being in need of few or no resources and "nonurgent." To avoid interfering with ED care, we did not approach patients triaged as critical (level 1) or their parents or guardians. We excluded patients who were severely developmentally delayed or otherwise unable to consent.

Methods of Measurement

A trained clinical research coordinator or a research-focused clinical nurse identified and approached eligible patients, parents, or guardians, during the ED visit. For adolescents presenting to the ED with a parent present, parental permission and informed assent were obtained. For adolescents who presented to the ED without a parent present, informed assent was obtained from the adolescent; a waiver of parental permission was granted by the hospital's institutional review board. For all participants aged 18 years or older, informed consent was obtained. This study was reviewed and approved by the institutional review board.

We used purposeful sampling to enroll participants with specific characteristics, allowing a diverse representation. We intended to enroll 25% of participants at the satellite ED because this was representative of the relative ED volumes when the sites were combined. We attempted to enroll relatively equal proportions of adolescents and parents or guardians of each age group (ie, 14 to 15, 16 to 17, and 18 to 21 years). Within each age group, we aimed to enroll relatively equal proportions of each demographic factor (ie, race, insurance status, and sex). All interviews were conducted by either an experienced clinical research coordinator (R.G.T.) or a research nurse who also had clinical ED experience (B.E.P.). Both used a semistructured interview guide, including open-ended questions (Appendix E1, available online at http://www.annemergmed.com). Each potential participant was approached in his or her private examination room, and the interview was conducted in this setting or another private room. The participant and the parent or guardian were interviewed separately to protect confidentiality and ensure validity of responses. Participants were offered a small monetary compensation for their participation. We asked adolescents whether they had been tested previously for a sexually transmitted infection, as well as whether they and their parents or guardians thought sexually transmitted infection testing should be offered during the pediatric ED visit. Patients who were indifferent were grouped

with those who answered negatively. We also assessed the benefits and barriers to acceptability of confidential, universally offered gonorrhea or chlamydia screening in the pediatric ED by asking participants and parents or guardians about barriers of being offered testing, as well as benefits of screening teens for gonorrhea and chlamydia in the pediatric ED. Finally, we explored the preferred modality for assessing interest in sexually transmitted infection screening (tablet versus paper versus in person by a health care provider), as well as reasons for the preference. The exact process of the potential mode of screening was not detailed in the questioning.

The age-appropriate, semistructured interview guide is grounded in 2 relevant theories of health-related behavior: the behavioral model of health services use and the health belief model.[29-31] The behavioral model of health services use provides a framework for explaining the interactions between multiple factors related to access of medical care, including the contextual and individual characteristics (predisposing, enabling, and need), as well as various health behaviors.[29,30] The health belief model uses key concepts, including perceived susceptibility, severity, benefits, and barriers, as well as cues to action and self-efficacy, that assess a participant's "readiness" and ability to take action.[31]

Primary Data Analysis

All interviews were audiotaped with the participants' permission and transcribed by an independent transcriptionist. The interview guide was modified as needed after the interview process began. Transcripts and notes were cleaned and edited, and framework analysis was used to analyze the survey data.[32] This is a qualitative method of analysis that is often referred to as thematic or qualitative content analysis and is frequently used to analyze semistructured interview transcripts.[33] In this study, we used an inductive approach with thematic coding and a subsequent iterative process for further clarification of themes.[33] With this methodology, the intention is not to produce generalizable results but instead to systematically identify themes around a specific area of interest.[33,34]

During familiarization, or phase 1, the investigators (J.L.R., B.E.P., and R.G.T.) independently reviewed the transcripts and then together reached consensus in regard to important themes and ideas. During phase 2 (identification of a thematic framework), the investigators met to develop a thematic organizational model. In phase 3 (indexing), the data were consistently labeled according to the previously developed thematic framework. During phase 4 (charting), direct quotations from the interviews were compiled, with headings and subheadings. All differences were reviewed until consensus was reached. In phase 5 (mapping and interpretation), the investigators used any existing literature to support concepts underlying adolescents' and parents' or guardians' perceived benefits and barriers to universally offered adolescent gonorrhea and chlamydia screening in the pediatric ED, as well as the acceptability of using a tablet to collect confidential information about the desire for screening. We enrolled participants until we achieved informational redundancy, which is a standard method for estimating sample size in qualitative studies.[35]

RESULTS

Characteristics of Study Subjects

Table 1 displays study sample characteristics among adolescents and parent or guardians. Relatively equal proportions of adolescents and parents or guardians within each age group were enrolled, as well as relatively equal proportions of demographic factors other than parent or guardian sex. There was a much larger proportion of female parents or guardians participating than male ones. Seventy-seven percent of adolescents (40/52) and 93% of parents or guardians (40/43) approached agreed to participate. Table 2 displays the demographics of individuals who refused participation in the study. Most of the adolescent refusals were due to not feeling well as a result of the acute illness that necessitated the ED visit.

Main Results

Most adolescents (26/40; 65%) had never been tested for sexually transmitted infections, but almost all adolescents (37/40; 93%) and parents or guardians (39/40; 98%) supported offering ED gonorrhea and chlamydia screening to all teens in the pediatric ED. Two unsupportive adolescents provided no reason for their response, and the third adolescent stated, “[I]t’s something personal.” The one parent or guardian who did not support gonorrhea or chlamydia screening stated, “No, I think you would have some parents who would have a hard time with it.”

Both adolescents and parents or guardians cited that the benefits to gonorrhea and chlamydia screening included earlier diagnosis and treatment, convenience of testing in the pediatric ED, and prevention of transmission of infection (Table 3). Additionally, themes that were identified specifically among parents or guardians included improved reproductive health education, improved longterm adolescent health, and that screening would be offered to every teen. Many parents expressed concern about “targeting” specific adolescents according to demographic factors or preconceived assumptions. There were no other specific age or racial concerns in this theme.

Both adolescents and parents or guardians identified the ability to maintain confidentiality and patient cost of gonorrhea and chlamydia screening as barriers. A majority of adolescents expressed no concerns. However, the most common adolescent concern identified involved the embarrassment of being tested, including agreeing to screening in front of the health care provider, and the stigma associated with potentially positive results. Parents or guardians reported that the most significant barriers to gonorrhea and chlamydia screening from their perspective were nondisclosure to parents or guardians (eg, not informing the parent/guardian of the testing) and the fear that adolescents may have in regard to receiving punishment for their sexual behavior or disappointing the parent.

Adolescents and parents or guardians noted that the advantages to using tablets to assess interest in gonorrhea and chlamydia screening included confidentiality and adolescents’ familiarity with technology. Adolescents preferred that gonorrhea and chlamydia screening be offered in a private room with tablets. They noted that tablet use would address their embarrassment about broaching the topic of gonorrhea and chlamydia screening with

clinicians. Parents or guardians noted that using tablets may increase the number of adolescents who agreed to gonorrhea and chlamydia screening, but also expressed concern about the lack of personal interaction with a health care provider.

LIMITATIONS

There are several limitations to this study. Adolescent patients often present to the ED without their parent or guardian present, making it difficult to obtain parental permission for all adolescents approached for enrollment. Under Ohio law, health care providers are able to discuss and treat adolescent patients for sexually transmitted infection–related issues without parental consent. Thus, for patients who present without parents, the research team was able to enroll the adolescent without parental permission. However, for patients with parents or guardians present, parental permission was required. This requirement may have biased the sample because adolescents who do not require parental permission may be more willing to participate than those for whom parental permission is required. However, to protect confidentiality and obtain the most honest responses, interviews were conducted without parental presence. This study is limited in that participants included only adolescents and parents or guardians who visited an urban or suburban pediatric ED, and it was unclear whether these patients resided in the surrounding urban community or were from other settings, including rural areas. Additionally, this study population included patients who have variable access to primary care, which may be a factor that contributes to participant attitudes toward universally offered ED gonorrhea and chlamydia screening.

DISCUSSION

In this qualitative study involving a diverse sample of adolescents and parents or guardians presenting to a pediatric ED, we found a very high rate of acceptance (93% and 98%, respectively) for offering universal gonorrhea and chlamydia screening to adolescents. Other quantitative studies that have implemented universal screening in a pediatric ED research environment reported high acceptability (59% to 80%) among participants agreeing to gonorrhea and chlamydia testing; however, these studies measured the participation among subjects in a research study by using quantitative methodology.[14,24,36] Our rates of acceptability were much higher with qualitative methods, but we were focusing on the acceptability of *offering* gonorrhea and chlamydia screening in a pediatric ED setting versus agreeing to it. Although it is likely that a smaller proportion of patients would actually agree to gonorrhea and chlamydia screening, there was a very high acceptance in regard to offering screening in routine ED clinical care. To our knowledge, this study is the first to use qualitative methods to assess not only adolescents' views on universally offered ED gonorrhea and chlamydia screening but also the views of their parents or guardians. Even though sexually transmitted infection screening can be offered and executed in all states without parental consent, acceptability of offering screening is the first step in assessing whether a pediatric ED gonorrhea and chlamydia screening program is going to be embraced by the population it is meant to benefit.

The adolescents and parents or guardians in this study readily identified the numerous benefits of gonorrhea and chlamydia screening. Many cited that a major benefit of offering

gonorrhea and chlamydia testing in the pediatric ED setting was the convenience of receiving testing. One teen stated that “everybody uses this [ED] as a normal doctor,” further reinforcing literature that suggests teens often only seek care for acute illnesses and injury that is often sought in EDs.[9-11] Our data support that the pediatric ED is an acceptable setting in which to engage high-risk adolescents for gonorrhea and chlamydia screening, supplementing testing in primary care medical homes.

Parents or guardians reported that one of the significant benefits to universally offered gonorrhea and chlamydia screening was that screening would be standardized. Racial disparity in testing for sexually transmitted infections in the pediatric ED setting has been reported by Goyal et al,[37] thus supporting the parent or guardian concerns found in this study. Although targeting adolescents in the pediatric ED for gonorrhea and chlamydia screening according to their sexual risk profile has been reported as a feasible method of ED screening,[38] our study suggests that parents or guardians may prefer that screening be offered universally to all adolescents to destigmatize testing and promote screening as a standard option.

The most common barriers to gonorrhea and chlamydia screening identified by participants in our study included the cost of the testing and confidentiality. Because screening is a well-established preventive care test, public and private insurance will often reimburse its cost.[39] However, in the current climate of high-deductible payment plans, cost may be a barrier and may need to be addressed when screening is offered. Confidentiality is a concern that has been reported in previous literature, with data suggesting that 92% of teens and young adults would agree to sexually transmitted infection testing if their parents would not find out.[40,41] To implement a successful screening program, it is imperative to ensure adolescent confidentiality and discuss any possible breaches of confidentiality, including third-party payer explanation of benefits and hospital billing documents. Most explanation-of-benefits documents list only generic laboratory testing, and specific testing is indicated only on itemized bills requested by the insured. Therefore, the breach of confidentiality because of billing is low, albeit still possible. None of the participants identified time for testing and results notification as a barrier. Results are not immediately available at our institution and are given to the patient by telephone in follow-up. Because the screening occurs on a urine sample, the process of obtaining urine in the ED is the only ED-time-related concern.

Adolescents identify embarrassment and stigma as 2 important barriers to being screened for gonorrhea and chlamydia. A study by Balfe et al[42] similarly demonstrated that women, especially those who were young and of low socioeconomic status, reported that stigma was a barrier to accepting sexually transmitted infection screening. By offering screening universally and making it a routine part of adolescent health care, providers can work toward destigmatizing testing and thus improving acceptance rates of screening among this population.

Adolescents in our study reported that a tablet or computerized screening approach would improve confidentiality among adolescents who were asked to be screened, and this approach would address adolescent concerns about broaching the topic of sexually transmitted infection screening face to face, a finding supported by previous literature.

[38,43-45] However, this study adds to the literature in that it also demonstrates that parents or guardians have similar preferences, preferring a computerized approach to screening. The use of technology may not only address confidentiality issues but also allow integration into the patient's electronic health record.

Parents or guardians noted that tablets may increase the number of adolescents who agree to gonorrhea and chlamydia screening, but many were concerned about the lack of personal interaction. This concern was not reported by adolescents in this study; thus, it is possible that this is a generational difference in the acceptance of technology and the importance of personal interaction. Patients who test positive for sexually transmitted infections in our institution receive personal interaction in follow-up through telephone calls using confidential telephone numbers that patients provide. The adolescents were informed that only they would be notified of positive test results, and parents would be notified only if the adolescent gave permission to do so. The nurses who make these calls discuss treatment, prevention, and referrals to primary care settings.

There is controversy about whether public health interventions and, in particular, preventive screening are appropriate to pursue in an ED setting. However, the ED functions as the primary source of health care access for more than 1.5 million adolescents,[10] and even when they do access primary care, only 12% of sexually active female patients aged 15 to 24 years receive annual testing for gonorrhea or chlamydia.[46] The Centers for Disease Control and Prevention recognizes the opportunity for the ED to serve as a strategic safety net site to reach vulnerable populations and thus recommends that screening for HIV and other sexually transmitted infections expand into the ED setting.[47] Failing to address population health in an ED setting is a missed opportunity.

In summary, this qualitative study demonstrates that universally offered gonorrhea and chlamydia screening in a pediatric ED is generally acceptable to adolescents and parents or guardians. Using a discreet, tablet-based method to offer gonorrhea and chlamydia screening is likely to increase participation but needs to be balanced by personal interaction with the provider. This information will drive the development of a universally offered gonorrhea and chlamydia screening program that will be implemented and tested with a quality improvement approach. It will be important to examine the proportion of patients agreeing to gonorrhea and chlamydia testing and reasons for refusal. Other inquiries may include considering potential benefits and barriers among adolescents and parents or guardians in screening for other sexually transmitted infections in the ED, including HIV and syphilis.

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APPENDIX E1

Semistructured interview guide

This is a draft of the information that will be included in the interview. The interviewer will use this as a guide for the interview; however, the specific questions will be adapted according to the responses of the participant.

DRAFT QUALITATIVE INTERVIEW GUIDE: AIM 1 AND AIM 2

We are in the process of developing an STD screening program (specifically, gonorrhea and chlamydia screening) in the ED to be offered to all adolescent patients who visit the ED for any reason. Before we begin to offer this testing, we would like to have some opinions from parents and teens. The information that we collect during these interviews will help us to design a gonorrhea and chlamydia screening program that meets the needs of both teens and their parents.

The questions below will serve as a guide and will be tailored to the specific subject being interviewed.

Participant #:	
Medical Record Number	Date of Visit:
Interview questions	
Parents/guardians	
How old are you?	
What is your race?	
What is your sex?	
What type of insurance do you have?	
How old is your child?	
What is your child's sex?	
What is your child's race?	
As far as you know, has your child ever been tested for STDs before? If yes, where does your child typically go for STD testing?	
Do you think that your child needs STD testing during a future ED visit? Why or why not?	
What concerns would you have in regard to an STD screening program? Payment/insurance coverage, confidentiality, other?	
What problems do you see with developing a process in the ED aimed at screening all teens aged 14 to 21 y for gonorrhea and chlamydia if they agree to the screening?	
What would prevent your child from agreeing to STD screening? Pain or discomfort, time, embarrassment, stigma, confidentiality?	
How likely is it that your teen has an STD or may have an STD in the future?	
How serious would it be if your teen had an STD?	
How serious would it be if your teen has an STD and does know it?	
What are the benefits of having an STD screening program in the ED? Easier access to care, convenience, early detection of infection?	
What would motivate your teen to agree to STD testing in the ED?	

Do you think that your teen would agree to STD testing in the ED if an ED physician or nurse recommended testing? What if the recommendation for testing were on an iPad that your teen was given and he or she could participate through a click on the iPad (or paper) instead of direct interaction with a physician or nurse? Would your teen be comfortable using an iPad?

Would your interest in STD screening change according to the reason for your child's visit? If it were a serious injury or illness vs a minor one?

Ohio law states that teens can be tested for STDs without a parent's permission and any positive results can be shared with the parent only if the teen agrees. Knowing this, what kind of follow-up care would you like if your child did test positive for an STD?

Who would be the best person to approach your child to ask whether he or she would like STD testing? Physician, nurse, other? Would you prefer a person (MD or RN) to approach your child about testing or to have him or her be asked about testing though a computer or iPad?

When would be the best time during your child's ED visit to approach him or her? In triage, in a private examination room? Would it differ according to the approach; for example, a person discussing the testing vs a question on a computer screen?

Would you prefer that a pamphlet be available to your child for reviewing the process before he or she is approached for testing?

As a parent, would you be comfortable if asked to leave the room so that your child could be approached confidentially? If so, how would you suggest keeping this information confidential if a parent is with the teen in the ED?

Is there anything else that we should consider before offering STD testing to teens?

Teens

How old are you?

What is your race?

What is your sex?

What type of insurance do you have?

Have you ever been screened for STDs before? If yes, where do you typically go for STD testing?

Do you think that you need STD testing?

Would you want STD testing during a future ED visit? Why or why not?

What concerns would you have in regard to an STD testing program? Payment/insurance coverage, confidentiality, other?

What problems do you see with developing a process in the ED aimed at screening all teens aged 14 to 21 y for gonorrhea and chlamydia if they agree to the screening?

What would prevent you from agreeing to STD screening? Pain or discomfort, time, embarrassment, stigma, confidentiality?

How likely is it that you may have an STD right now?

How likely is it that you may have an STD in the future?

How serious would it be if you had an STD?

How serious would it be if you had an STD and didn’t know it?

What are the benefits of having an STD screening program in the ED? Easier access to care, convenience, early detection of infection?

What would motivate you to receive STD testing in the ED?

Do you think that you would agree to STD testing in the ED if an emergency physician or nurse recommended testing? What if the recommendation for testing were on an iPad (or paper) and you could agree to participate through a click on the iPad rather than direct interaction with an MD or RN?

Do you think your friends would be more likely to agree to screening if we asked the question on an iPad/computer? Why or why not?

Would your interest in STD screening change according to the reason for your visit? If it were a more serious illness or injury versus a minor one?

Ohio law states that teens can be tested for STDs without a parent’s permission and any positive results can be shared with the parent only if the teen agrees. Knowing this, if you tested positive, you would need treatment. Where would you like to go for treatment? Would you be able to pick up a prescription at a pharmacy without your parent knowing? What other kind of follow-up care would you want?

Who would be the best person to approach you to ask whether you would like STD testing? Physician, nurse, other? Would you prefer a person (MD or RN) to approach you about testing or to be asked about testing through a computer or iPad?

When would be the best time during your ED visit to approach you? In triage, in the private examination room? Would it differ according to the approach; for example, a person discussing the testing vs a question on a computer screen?

Would you prefer that a written pamphlet be available for you to review the process before being approached for testing? Would you think that if you received this pamphlet that your parent would then know that you were asked and possibly agreed to STI testing? Would this be a problem and prevent you from agreeing to testing?

Would you like it if we asked your parent to leave the room so that you could be approached privately (confidentially)? What other ways could we approach you privately? If you answered the questions on an iPad/ computer, would you still prefer that your parent leave the room?

Is there anything else we should consider before offering STD testing to teens?

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Editor's Capsule Summary

What is already known on this topic

Early identification of adolescents with gonorrhea and chlamydia can improve long-term sexual health.

What question this study addressed

How will adolescent patients and their parents feel about universal gonorrhea and chlamydia screening in the emergency department (ED)?

What this study adds to our knowledge

In a 2-ED study of a convenience sample of 40 adolescents, nearly all patients and parents supported universal gonorrhea and chlamydia screening.

How this is relevant to clinical practice

This small study suggests that patients and parents are amenable to screening for gonorrhea and chlamydia infections. Larger generalizable studies of compliance and effectiveness are needed.

Table 1.

Adolescent and parent or guardian study sample demographics of participants.

	Race, No. (%)			Insurance, No. (%)		Sex, No.(%)		ED Location, No.(%)	
Age, Years	**White**	**Black**	**Other**	**Private**	**Government**	**Female**	**Male**	**Main**	**Satellite**
Adolescents (n = 40)									
14–15	9 (69)	4 (31)	0	6 (46)	7 (54)	7 (54)	6 (46)	8 (62)	5 (38)
16–17	9 (64)	5 (36)	0	8 (57)	6 (43)	6 (43)	8 (57)	11 (79)	3 (21)
18–21	7 (54)	5 (38)	1 (8)	7 (54)	6 (36)	8 (62)	5 (38)	11 (85)	2 (15)
All ages	25 (63)	14 (35)	1 (2)	21 (53)	19 (47)	21 (53)	19 (47)	31 (79)	9 (21)
Parents/guardians (n = 40)									
14–15	9 (69)	4 (31)	0	7 (54)	6 (46)	11 (85)	2 (15)	8 (62)	5 (38)
16–17	9 (60)	6 (40)	0	7 (47)	8 (53)	11 (73)	4 (27)	12 (80)	3 (20)
18–21	7 (58)	5 (42)	0	5 (42)	7 (58)	12 (100)	0	10 (83)	2 (17)
All ages	25 (63)	15 (37)	0	19 (48)	21 (52)	34 (85)	6 (15)	30 (75)	10 (25)

Table 2.

Demographics of adolescents and parents/guardians who refused participation in the study.

	Race, No. (%)			Insurance No.(%)		Sex, No.(%)		ED Location, No.(%)	
Age, Years	**White**	**Black**	**Other**	**Private**	**Government**	**White**	**Black**	**Main**	**Satellite**
Adolescents (n = 12)									
14–15	3 (75)	1 (25)	0	4 (100)	0	2 (50)	2 (50)	3 (75)	1 (25)
16–17	3 (50)	3 (50)	0	4 (67)	2 (33)	5 (83)	1 (17)	4 (67)	2 (33)
18–21	0	2 (100)	0	1 (50)	1 (50)	0	2 (100)	2 (100)	0
All ages	6 (50)	6 (50)	0	9 (75)	3 (25)	7 (58)	5 (42)	9 (75)	3 (25)
Parents/guardians (n = 3)									
14–15	1 (100)	0	0	1 (100)	0	1 (100)	0	0	1 (100)
16–17	1 (50)	1 (50)	0	2 (100)	0	2 (100)	0	0	2 (100)
18–21	0	0	0	0	0	0	0	0	0
All ages	2 (66)	1 (33)	0	3 (100)	0	3 (100)	0	0	3 (100)

Table 3.

Themes and representative quotations related to acceptability of gonorrhea and chlamydia testing in the ED among adolescents and parents or guardians.

Themes	Representative Quotations
Barriers to GC/CT testing reported by adolescents	
Embarrassment	"It's a lot about embarrassment; they don't want to make themselves look bad just because they have an STD." (adolescent) "The only thing I can think of is embarrassment, but hopefully most people are logical enough to overcome that."(adolescent)
Barriers to GC/CT testing reported by parents/guardians	
Nondisclosure to parent/guardian	"I know the information is kept confidential and that's to get teens out there more to do it, but, you know, as a parent, I also want to know if my child has something." (parent/guardian) "...I think the parents should know so the parent can be looking out and be aware and probably help that child so.I know confidentiality means a lot, but when it comes to their adolescent, then the parent should know." (parent/guardian)
Barriers to GC/CT testing reported by both adolescents and parents/guardians	
Maintaining confidentiality	"I just think as long as their parents don't find out or it's just confidential with them, they would answer." (adolescent) "They would have thoughts like if they have it, they don't want to do it [be screened]; they might get scared of it going out and people knowing." (adolescent) "As long as it's OK with the adolescent, I don't think there's any problem.. [I]t should be confidential for them, and their parents didn't know about it." (parent/guardian) "I think that if you have a program, it needs to be private so that children are protected, but that yet the children need somebody to be able to go to." (parent/guardian)
Patient cost	"I would assume my insurance would take care of it." (adolescent) "Some people don't have insurance." (adolescent) "I don't want the money aspect, but I would do anything to get rid of it." (parent/guardian) "Might have a problem if the insurance—not sure if they will cover it, but it would be nice if they did cover it." (parent/guardian)
Benefits of universal STI screening Benefits to GC/CT testing reported by parents/guardians	
Improved education	"Education...anytime you can grab a kid and say, 'Listen, this is your choice,' we are big on; own it.... [I]t's your choice and it's your consequence." (parent/guardian) "It might be good talking points for kids and their parents, maybe even if they don't get screened but they got some information or if they questioned about if they could get it in the future, so it might not necessarily happened that day, but it might help in the long run." (parent/guardian)
Improved long-term health	"That way kids who do have sex and have an STD will find out instead of waiting a year down the road and hiding something from the parents forever." (parent/guardian) "Just to prevent long-term effects if a child does have an STD...if they're tested, then it can be addressed; if not, it can really impact their health." (parent/guardian)
Standardization of screening	"For the parents, not singling it out so you don't think it's just your kid that's being tested, and [saying] we offer this to everybody." (parent/guardian) ".[I]f they think people are looking down on them or they look lower class or something, they would probably think that you're trying to call them dirty or something like that, but in all reality you are just offering them something that's going to benefit them and their kids in the long run." (parent/guardian)
Benefits to GC/CT testing reported by both adolescents and parents/guardians	
Earlier diagnosis and treatment	"It's a major thing and it causes major consequences if you don't do anything about it, so I think trying to prevent it and doing everything you can to prevent it is a really good idea." (adolescent) "...people knowing for sure and if they don't know, then they'll find out while they're here so they can get treated for it right away." (adolescent) "Catch it in time before it gets worse or before they can infect someone else." (parent/guardian) "You could possibly know prior to maybe having symptoms." (parent/guardian)
Convenience	"Everybody uses this [ED] as a normal doctor." (adolescent) "It's available if someone needs it and didn't know how to get it." (adolescent) "Making it easy and convenient, you're already there and some people might not actually go to the doctor for that." (parent/guardian) "Just getting it all done at once...getting it done if it's offered, why not?" (parent/guardian)

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Themes	Representative Quotations
Prevention of transmission	"Just making sure that stuff doesn't go untreated and cause other problems or they're spreading it around." (adolescent) "I think that could prevent a lot of spread of STDs, as well as maybe, like, secondary things that could affect people later on in life." (adolescent) "It benefits everybody all the way around, especially the kids that don't know 'cause there're a lot of kids that don't know they have something and they're running around spreading it...." (parent/guardian) "I think if it can stop the spread of STDs, I think that's a good idea. I mean, these kids are having sex; it's just the way it is, you know. Burying our heads in the sand is not going to fix it.... [W]e have to be able to fix it." (parent/guardian)
Technology use Preference for tablet-based GC/CT screening by adolescents	
Screening should be offered in a private room with tablets	"I feel like no one needs to know outside, so I think being in a private room would be very important." (adolescent) "I feel here in the treatment rooms would probably be better than triage. I think....also, depending on the condition or what they're here for, I feel like triage can be kind of chaotic and people are kind of frazzled. Once you get here, it's quiet, it's calm, and I think it's a better environment for something like that." (adolescent)
Tablets would address concerns about broaching STI topic with clinicians	"I think it would be good because it gives the teenager, if they are embarrassed talking to doctors sometimes, you could just answer things on the iPad and then turn it in. It doesn't actually have to come out of your mouth." (adolescent) "I think that would help kids a lot... [I]t's definitely between them and the doctor, but they also really identify with technology and they almost feel safer, so I think that's a really good idea." (adolescent)
Acceptability of tablet-based GC/CT screening by parents/guardians	
Concern for lack of personal interaction	"I think somebody of authority would still need to just say, 'Do you have questions? Does everything make sense?'" (parent/guardian) "...whereas if you have a personal interaction, sometimes you can read a key if somebody is nervous or they may be avoiding something that maybe a nurse or a doctor could say, 'Hmm, maybe I can ask this question,' whereas the tablets are not going to see their reaction and they wouldn't be probed a little bit deeper...." (parent/guardian) "This iPad stuff is killing me. I always think you need to talk to a person live." (parent/guardian)
Acceptability of tablet-based GC/CT screening by both adolescents and parents/guardians	
Confidentiality	"Maybe have them on the computer or something where they don't have to talk about it; they can just enter it." (parent/guardian) "Some people like to do it on the computer and be alone." (adolescent)
Adolescents' familiarity with technology	"The people getting tested would probably be more comfortable with technology rather than a pen and paper. It just feels more familiar." (adolescent) "I think they would like that because every time you look, they are permanently attached anyway, so that would be easy." (parent/guardian)

GC, Gonorrhea; *CT*, chlamydia; *STD*, sexually transmitted disease; *STI*, sexually transmitted infection.