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Characteristics Associated with Confidential Consultation for Adolescents in Primary Care

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Abstract

Objective—To examine how provider report of confidential consultation in the electronic health record is associated with adolescent characteristics, health risk factors, and provider training.

Study design—This prospective cohort study was conducted as part of a larger study implementing computerized clinical decision support in two urban primary care clinics. Adolescents used tablets to complete screening questions for specified risk factors in the waiting room. Adolescent-reported risk factors included sexual activity, substance use and depressive symptoms. Providers were prompted on encounter forms to address identified risk factors and indicate whether confidential consultation was provided. Provider types included adolescent medicine board certified pediatrics and general pediatrics. Differences in proportions of adolescents reporting risk factors by provider type were assessed using chi-square tests. Associations between adolescent characteristics, risk factors, and provider-reported confidential consultation were examined using logistic regression analyses.

Results—The sample included 1,233 English and Spanish-speaking adolescents 12–20 years of age [52% female; 60% Black; 50% early adolescent]. Patients seen by adolescent medicine board certified providers reported sexual activity, depressive symptoms and substance use significantly more often than those seen by general pediatric providers. Among patients seen by board certified

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adolescent medicine providers, confidential consultation was provided to 90%. For those seen by general pediatric providers, confidential consultation was provided to 53%. Results of multiple logistic regression demonstrated that female sex, later adolescence, and clinic location were significantly associated with confidential consultation.

Conclusions—Provider training is needed to reinforce the importance of confidential consultation for all adolescents.

Confidential consultation is an essential component of adolescent primary care. Whereas confidential care encompasses an array of confidentiality factors during and after the clinical visit, confidential consultation describes the practice of providers engaging in one-on-one discussions with adolescent patients in clinic without the presence of a parent.(1) Confidential consultation provides adolescents with an opportunity to more comfortably and candidly discuss a variety of sensitive topics with providers.(2) If adolescents perceive that providers will not maintain confidentiality, they may be deterred from seeking care for more sensitive health concerns, which may adversely impact health outcomes.(3) For these reasons, a number of professional organizations, including the Society for Adolescent Health and Medicine (2) and the American Academy of Pediatrics,(4) have recommended confidential consultation for adolescents during primary care visits to help promote the highest quality of care and best possible health outcomes.

Studies have previously confirmed that adolescents are more likely to seek care, disclose information about sensitive health risk factors, and return for future care if confidentiality is assured.(3) It has also been shown that adolescents who are provided with an opportunity for confidential consultation during their primary care visit are more likely to discuss sensitive topics including substance use, mental health, sexual health, and problems at school with their providers than those who are not.(1) Although a number of studies have shown that adolescents,(3) parents,(1) and providers,(5, 6) all believe confidential care is important, many adolescents are still not provided with an opportunity for confidential consultation in primary care.(1, 5, 7)

Increasing the number of adolescents who receive confidential consultation in primary care requires a better understanding of the factors that adversely impact the provision of confidential consultation in this setting. Previous studies have shown that parental attitudes, (5, 6) a lack of provider time,(3, 6) ambiguous confidentiality laws,(3, 6, 8) and lack of knowledge about those laws all play a role.(9–11) We sought to examine how recorded provision of confidential consultation in the medical record for a large population of adolescents is associated with: (1) demographic characteristics of the adolescent, (2) adolescent self-reports of sensitive risk factors including sexual activity, substance use and depressive symptoms; and (3) provider training.

METHODS

Data for this study were gathered as part of a larger clinical trial focused on the implementation of a computerized clinical decision support system in two urban primary care settings within the Eskenazi Health Federally Qualified Health Center system between October 1, 2014 and September 30, 2015.

The clinical decision support system being examined, the Child Health Improvement through Computer Automation (CHICA) system, was designed to integrate information from a patient's electronic medical record with screening data collected in the waiting room and best practice recommendations to generate customized physician decision support.

The adolescent CHICA system automatically generates an individualized tablet-based pre-screener form (PSF) upon registration using data from the patient's electronic health record that includes age, developmental stage, current and previous medical conditions, and known risk factors for morbidity. Adolescent patients are then asked to complete a 20-item patient questionnaire on the PSF form that asks questions about their physical and behavioral health including topics such as depression, sexual behaviors, and substance use.

Based upon patient responses to the PSF questions, a tailored provider worksheet (PWS) is printed and given to the provider for consultation during the clinical encounter. This form includes six provider prompts, one prompt regarding the provision of confidential consultation (Figure; available at www.jpeds.com) and 5 additional prompts describing specific health needs identified by patients on the PSF questionnaire. If more than five additional needs are identified, CHICA prioritizes which prompts appear using specific patient data combined with national clinical guidelines.(12, 13) Following each prompt are corresponding checkbox responses that allow providers to document data, procedures, prescriptions, referrals, and other actions that take place during the encounter. The completed PWS form is then scanned and uploaded into CHICA by clinical staff after the patient encounter. CHICA analyzes provider responses using optimal mark and character recognition to detect which action items were taken by the provider and then records those actions in a database. Together, the PSF and PWS provide screening and correlative options for provider follow-up. More detailed technical information about CHICA including rule processing, development of Arden rules, data storage, and implementation can be found in previous publications.(13–16)

A total of 1233 English- and Spanish-speaking youth between the ages of 12 and 20 at first adolescent primary care visit during the study period were included in the sample. Demographic variables included age (categorized as early adolescence [<15], middle adolescence [15–17], and late adolescence/young adult [18–21]), sex, race/ethnicity, insurance type, clinic and language preference. Other exposure variables included provider type (adolescent medicine board certified or general pediatric provider), sexual activity (self-reported intercourse or forced sex), substance use (self-reported use of alcohol, tobacco or marijuana; or self-reported high), and depressive symptoms (self-reported sadness, anhedonia or thoughts of suicide). Descriptive statistics (frequencies and percentages) were calculated for these variables.

Visits with adolescent board certified providers differed from visits with general pediatric providers not only in terms of training, but also in terms of staffing and visit time. Nursing professionals who work with adolescent medicine board certified physicians have received additional training in adolescent-specific health issues such as confidentiality, mental health, reproductive health and substance use. From a clinical flow standpoint, visits with adolescent medicine board certified providers in the Eskenazi system are longer than visits

with general pediatric providers (20 minutes versus 15). Nursing professionals working with adolescent medicine board certified physicians also perform between-visit case management and triage with patients, resulting in additional opportunities for rapport-building, screening and counseling on adolescent health issues. For patients seen by general pediatric providers, only a subset of phone calls are routed to nursing support staff. These structural differences facilitate screening, identification, referral and case management for adolescent-specific health issues.

The statistical significance of differences in proportions of adolescents reporting sexual activity, substance use and depressive symptoms seen by each provider type were assessed using the chi-square test. For all subsequent analyses, the outcome variable was provider-reported provision of confidential consultation. Responses indicating that a visit was fully confidential or partially confidential were grouped as 'confidential'; and responses indicating that a visit was not confidential for any one of three reasons (not wanted, not possible or not appropriate, as determined by the provider) were grouped as 'not confidential'. Among adolescents who were seen by general pediatric providers (N=1001), both simple and multivariable logistic regression analyses were performed to examine associations between the three categories of health risk factors and the outcome variable for visits at which the confidential consultation question was answered. Odds ratios and 95% confidence intervals were calculated. P values of less than 0.05 were considered statistically significant. All analyses were done using SAS 9.4.

RESULTS

Of 1233 adolescents [52% female, 60% Black, 63% public insurance, 94% English-speaking, 50% early adolescent], 18% reported sexual activity, 9% reported substance use and 25% reported depressive symptoms (Table 1).

Providers responded to the confidential consultation question for 95% (1170/1233) of all visits. Among the population of 169 adolescents seen by adolescent medicine board certified providers for whom the confidentiality question was answered, confidential consultation was provided to 90%. Among those seen by general pediatric providers (n=1001), confidential consultation was provided to 53%.

Compared with the population of adolescents seen by general pediatric providers, those seen by board certified adolescent medicine providers reported sexual activity, depressive symptoms and substance abuse significantly more often (Table 2).

In univariate analyses, all three categories of health risk factors (sexual activity [OR: 1.9; 95% CI: 1.3–2.8], depressive symptoms [OR: 1.6; 95% CI: 1.9–2.2], and substance use [OR: 1.9; 95% CI: 1.1–3.2]), had significant positive associations with the provision of confidential consultation among adolescents seen by general pediatric providers. However, results of multivariate logistic regression demonstrated that no significant associations remained between provision of confidential consultation and adolescent-reported sexual activity (AOR: 1.2; 95% CI: 0.7–2.1) or substance use (AOR: 1.3; 95% CI: 0.7–2.5). A marginally significant association remained between depressive symptoms and the provision

of confidential consultation (AOR: 1.4; 95% CI: 1.0–2.1). Female adolescent sex (AOR: 1.5; 95% CI: 1.1–2.0), middle (AOR: 2.1; 95% CI: 1.5–2.9) and late adolescence (AOR: 5.5; 95% CI: 2.6–11.6), and clinic location (AOR: 16.6; 95% CI: 10.8–25.4) also remained significantly associated with the provision of confidential consultation (Table 3).

DISCUSSION

The current study demonstrates how patient demographics and health risk factors, as well as provider training and related factors, are associated with the provision of confidential care in adolescent primary care.

In this study, as in previous studies, female sex and older age of adolescents were shown to be significantly associated with confidential consultation. Alexander et al(17) likewise found that physicians were more likely have conversations with female adolescents related to sexual health than with their male counterparts, perhaps due to perceptions of increased vulnerability to sexually transmitted infections and pregnancy. The higher rate of confidential consultations for females in the current study may be impacted by this same provider perception that young women are more vulnerable to sexual health concerns than young men, despite young men playing equally important roles in STI and pregnancy prevention. This lower rate of confidential consultation among young men is particularly concerning in light of previous research showing that depressive symptoms are common among adolescent males, and that young men are more likely than young women to die of suicide.(18) Older adolescents also were more likely than younger adolescents to receive confidential consultation in our study. As adolescents age, they are more likely to develop mental illness,(19) become sexually active,(20) and use substances.(20) Providers may perceive the need for confidential consultation to be higher among older adolescents due to anticipated increases in health risk factors. For those over the age 18, confidentiality in health care is a known and unambiguous (if not always respected) right,(21) which likely influenced the provision of confidential consultation to those included in the “late adolescence” category of our study.

Rates of confidential consultation also differed significantly based on which clinic adolescents visited despite there being no notable differences in patient demographics or physician training and concomitant factors between the clinics. These differences may be explained by other clinic-level factors such as organizational culture or leadership. Previous studies have demonstrated that organizational factors can impact clinic performance. In one study of pediatric primary care clinics, those with organizational cultures that favored teamwork, shared decision-making, and collaboration had higher rates of perceived effectiveness in meeting patients’ and families’ health needs.(22)

This study illustrates that adolescent medicine board certified providers endorse the provision of confidential consultation with much greater frequency than general pediatric providers. Previous studies have found that general pediatricians report having concerns or discomfort about providing confidential consultation and care to adolescents for sensitive health issues.(6, 8, 23, 24) This discomfort with may help explain why general pediatric providers were less likely to endorse the provision of confidential consultation than board

certified providers. It is also important to remember, as described in the methods, that visits with adolescent board certified providers differed from visits with general pediatric providers not only in terms of training, but also in terms of staffing and visit time.

Another explanation for this disparity in rates of confidential consultation between provider types may be due to differences in the populations of adolescents whom these providers serve. In the current study, board certified adolescent medicine providers saw significantly more adolescents who self-reported health risk factors of substance use and sexual activity. Whereas general pediatric residents receive approximately one month of training in adolescent health rotations,(24) adolescent medicine board certified providers are required to have at least three years of full-time training in adolescent medicine.(25) Although no studies have been published showing that board certified providers are more likely to see high-risk patients, it is reasonable to conclude that high-risk patients are often referred to board certified providers – when available – due to their relative expertise and experience with sensitive adolescent health issues. If board certified providers are aware that their patient population generally is more at risk, they may perceive a higher need for confidential consultation. A previous study on residency training and scope of practice found that a majority of general pediatric providers report feeling comfortable managing adolescents without the support of a subspecialist, which may support this conclusion that only higher-risk patients are referred to board certified providers.(26) This may also help explain the relatively small overall number of adolescents seen by adolescent medicine board certified providers compared with general pediatric providers in our sample.

In univariate analyses, depressive symptoms, sexual activity, and substance use were all significantly associated with the provision of confidential consultations by general pediatric providers. Because the purpose of confidential consultation is to provide a safe space for adolescent patients to discuss sensitive health topics one-on-one with their providers,(1, 2) it makes sense that providers perceive a higher need for confidential consultation with patients who report more health risk behaviors. However, after adjusting for other adolescent characteristics in the multivariable model, associations between these risk factors were no longer significant. It is possible that general pediatric providers may hold such strong beliefs about female adolescents and older adolescents having greater need for confidential consultation based on perceived health risk factors that they fail to be mindful of actual health risk factor screening results that contradict those perceptions.(27) This type of bias, called confirmation bias, persists when people make predictions in a manner that confirms beliefs they already hold to be true rather than considering conflicting evidence.

In the multivariable model, the relationship between adolescent report of depressive symptoms and physician endorsement of confidential consultation remained marginally significantly associated. A previous study of general pediatric training in adolescent medicine found that providers had more training specific to screening for mental health concerns than training specific to counseling about sexual health topics such as contraception options and correct condom application.(23) This difference in training may result in general pediatric providers feeling more comfortable with initiating adolescent confidential consultation to address self-reported depressive symptoms than providing confidential consultation to discuss sexual activity.

For 95% of adolescents in this study, providers responded to the confidential consultation question within the clinical decision support system framework. This response rate is much higher than for responses to prompts for adolescent depression and domestic violence, which fall between 50% and 60%.⁽²⁸⁾ The fact that providers responded to this prompt so often may indicate that they have strong opinions about the need for confidential consultation in adolescent primary care. Although 95% of provider prompts received a response, 5% (n=63) were left unanswered. In these cases, the provider may have ignored the prompt, checked the box in a way that was not detected by the computer, or indicated whether or not confidential consultation was provided in a different part of the medical record.

One notable limitation of this study is that there is no way of knowing whether adolescent patients completed the PSF questionnaire on their own. Although clinic staff were electronically prompted to hand the tablet to patients rather than parents, it is possible that parents assisted patients in answering the questions, or answered them on their child's behalf. This occurrence may have resulted in the underreporting of adolescent risk factors such as depressive symptoms, substance use, and sexual activity. Additionally, provider responses on PWS forms may not always be detected due to scanning errors or instances in which providers document action elsewhere in the chart. It is possible that this may account for some of the cases in which no response to the confidentiality question was captured.

Taken together, these findings highlight a clear need for additional training of general pediatric providers about confidential consultation that should reinforce the importance of confidential consultation for all adolescents, regardless of sex or age, and should emphasize the need for one-on-one consultation when sensitive risk factors are identified. Future research should focus on identifying methods to: (1) increase provider knowledge about the importance of confidential consultation for young men as well as young women, (2) encourage the provision of confidential consultation across all ages, including young adolescents, so that trusting relationships may be developed over time, and (3) improve provider comfort and confidence with speaking alone to adolescents of all ages and sexes about sensitive risk factors.

This study also reveals a need for clinic-level education about confidential consultation, and may support clinical sites or systems making the provision of confidential care for adolescents a standing policy that is clearly communicated to providers, staff, parents and adolescent patients alike. Although the significant difference in the provision of confidential consultation across clinical sites could be unique to this study population, previous work in primary care settings suggests that organization-level factors (above and beyond those associated with provider type) may be contributing to this difference.

Development of guidelines for general pediatric providers on performance of confidential consultation and their underlying evidence-based justifications likely would enhance health care of adolescents.

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OCHA Physician Encounter Form			
Patient: Patient Name			
DOB: _____ Age: _____ Sex: _____ MRN: _____			
Doctor: _____			
Weight: _____ Height: _____ BMI: _____ Blood Pressure: _____ Temperature: _____	Pulse: _____ Respiration: _____ Oxygen Saturation: _____	Blood Sugar: _____ Urine: _____ Stool: _____ Other: _____	Other: _____
History of Present Illness: _____ Past Medical History: _____ Social History: _____ Family History: _____			
Physical Examination: _____ Review of Systems: _____			
Assessment: _____ Plan: _____			
Signature: _____ Date: _____			

Figure.
Example Provider Worksheet with Confidential Consultation Prompt

Table 1

Characteristics of 1233 Adolescent Including Provider Type and Risk Factors

	n (%)
Sociodemographic	
Sex:	
Male	591 (47.9)
Female	642 (52.1)
Race/ethnicity:	
Black/African American	742 (60.2)
Hispanic/Latino	173 (14.0)
White	113 (9.2)
Other/Unknown	205 (16.6)
Age:	
Early (12–14)	619 (50.2)
Middle (15–17)	494 (40.1)
Late (18–21)	120 (9.7)
Insurance Type:	
Private	58 (4.7)
Public	781 (63.3)
Self-Pay	96 (7.8)
Unknown	298 (24.2)
Language:	
English	1159 (94.0)
Spanish	74 (6.0)
Clinic:	
1	746 (60.5)
2	487 (39.5)
Provider	
Provider Type:	
General Pediatric Certified Provider	1045 (84.8)
Adolescent Medicine Certified Provider	188 (15.2)
Self-Reported Risk Factors	
Sexual Activity (Intercourse/Forced Sex):	
Yes	220 (17.8)
No	1013 (82.2)
Depressive Symptoms (Sadness/Anhedonia/Thoughts of Suicide):	

	n (%)
Yes	307 (24.9)
No	926 (75.1)
<hr/>	
Substance Use (Tobacco, Alcohol, Marijuana Use/Self-Reported High):	
Yes	114 (9.2)
No	1119 (90.8)

Table 2

Cross-Tabulation of Provider Type and Adolescent Risk Factors

	Adolescent Medicine Board Certified Provider (N=169)	General Pediatric Provider (N=1001)	Chi-square Value	Degrees of Freedom	P-value
Sexual Activity	61 (36%)	128 (13%)	57.99	1	<0.01
Depressive Symptoms	48 (28.4%)	212 (21.2%)	4.37	1	0.04
Substance Use	28 (16.6%)	70 (7.0%)	17.27	1	<0.01

Table 3

Multivariable Analysis of Adolescent Factors and General Pediatric Provider Report of Provision of Confidential Consultation

N=1001	Provision of Confidential Care	
	AOR (95% CI)	P-value
Sociodemographic Factors		
Sex (Male)	–	
Female	1.5 (1.1–2.0)	0.01
Age (Early)	–	
Late	5.5 (2.6–11.6)	<0.01
Middle	2.1 (1.5–2.9)	<0.01
Race/Ethnicity (White)	–	
Black	1.5 (0.9–2.7)	0.14
Hispanic	1.2 (0.6–2.4)	0.67
Other	1.0 (0.5–2.0)	0.34
Language (Spanish)	–	
English	1.7 (0.9–3.4)	0.12
Insurance (Private)	–	
Public	0.7 (0.3–1.3)	0.25
Self-Pay	1.0 (0.4–2.6)	0.96
Unknown	1.3 (0.6–2.7)	0.47
Clinic (1)	–	
2	16.6 (10.8–25.4)	<0.01
Self-Reported Risk Factors		
Sexual Activity (No)	–	
Yes	1.2 (0.7–2.1)	0.43
Depressive Symptoms (No)	–	
Yes	1.4 (1.0–2.1)	0.06
Substance Use (No)	–	
Yes	1.3 (0.7–2.5)	0.44