

Adolescents' Access to Care

Teenagers' Self-reported Use of Services and Perceived Access to Confidential Care

Jonathan D. Klein, MD, MPH; Molly McNulty, JD; Claudia N. Flatau, MPH

Background: Most surveys on adolescents' use of health services rely on parental report, and this may underestimate adolescents' use of confidential services.

Objective: To investigate adolescents' report of their own use of health services, access to care, and knowledge and use of confidential services.

Method: A random digit-dialed survey of 14- to 19-year-old adolescents was conducted in Monroe County, New York. We screened 11 800 numbers and identified 4449 households (40%) of which 393 families (8.8%) had eligible adolescents. Of these, 259 (66%) consented and completed an interviewer-administered survey.

Results: Almost all adolescents (92%) rated their health as excellent or good and 90% had visited a health care provider within the year. Most (88%) identified a source of primary care. As many as 27% of adolescents had used

more than one source of care. Many youth identify school personnel as important resources for health and counseling needs. Only 8.4% of respondents have used services confidentially, but nearly half of all youth did not know where they could obtain confidential care if they needed to. Adolescents were least likely to know where to obtain mental health or substance abuse and reproductive services.

Conclusions: While most youth have used primary care, a substantial minority have not. Many teenagers depend on multiple sources of care, and they rely on school personnel as important sources of health information. Many do not know where they could go to review confidential services or for other services that they may need. Managed care insurance and public health policies should recognize adolescents' access needs to meet them appropriately.

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Editor's Note: These investigators went right to the source for information—can you think of a better place to find an adolescent than on the telephone?

Catherine D. DeAngelis, MD

ADOLESCENTS ARE among those least likely to have access to health care and they have the lowest rate of primary care use of any age group in the United States.¹ Despite the many changes in health care in the past decade, adolescents have been overlooked in most state and national health care policy debates,^{1,2} and there continue to be gaps between adolescents' health needs and the services available to them.¹ Since the 1960s, the "new morbidities" of childhood and adolescence have demanded a broad, comprehensive approach to health care, including integration of health education, primary care, and mental health services.³ However, much of the research on adoles-

cent health services is limited to studies of risk behavior, disease prevalence, or parental report of services use.² As a result, policy decisions about adolescent health may be based on an incomplete understanding of adolescents' health needs, access to care, and utilization patterns.

Prior reports⁴⁻⁶ of adolescents' access to care have studied school-based or clinic-based sample populations or have relied on parental reporting on adolescents' use of health care. However, adolescents and parents may not agree on where their regular source of care is, and many adolescents report that they would delay or avoid care for sensitive issues if it required their parents' involvement.^{4,7,8} Having an available source and using primary care has been shown to have health benefits for adults and children.^{8,9} Access is especially important during adolescence because the use of appropriate preventive services may modify risky behaviors, promote healthy habits, and improve health.^{7,10-12} However, little is known about

From the Division of Adolescent Medicine, Strong Children's Research Center, University of Rochester Medical Center, Rochester, NY.

METHODS

We conducted an anonymous random digit-dialed telephone survey of 14- to 19-year-old adolescents in Monroe County, New York. Monroe County consists of the city of Rochester and several surrounding suburban towns. We identified all 84 city and 31 suburban telephone exchanges in Monroe County. Using a reverse directory,¹³ 46 city and 6 county exchanges were excluded either because they were not in use or because they were exclusively used as business exchanges. For each exchange, 200 random 4-digit numbers were generated using a modified Waksburg method.^{14,15} Each number was dialed 10 or more times between October 1993 and March 1994. The first 5 attempts were during weekday evenings; numbers that could not be reached during these times were also called during day and weekend hours. Calls were considered completed if they could be categorized as households, businesses, or unassigned numbers. Interviewers asked respondents if there were eligible adolescents present, and consent was obtained from parents and adolescents for adolescents aged 16 years and younger. Adolescents older than 16 years were permitted to consent to their own interviews; however, if parents answered initially, their assent was also obtained. After they had consented to their child's participation in the study, parents were also asked to identify their teenager's source of primary care.

Each adolescent was asked about their self-reported use of health services, whether they had a regular source of care, about their perceived access to care, and about their knowledge of and use of confidential health services (defined as knowing a place they could get care and having received care without their parents' knowledge). General health status and concern about health were assessed by 2 questions from the RAND Medical Outcomes Study.¹⁶ Survey items and responses were developed based on in-depth interviews and pilot testing with a convenience sample of adolescents at Strong Memorial Hospital in Rochester, and field tested with a separate sample of adolescents. To evaluate the extent to which the parents agreed with their teenagers' response, we interviewed parents about their adolescents' regular source of care while obtaining consent for the adolescent interviews. The screening and survey protocols were approved by the Research Subjects Review Board of the University of Rochester School of Medicine, Rochester, NY.

the effect of different types of access to services on adolescents. Although policy reports^{1,12} on adolescent health care needs address outreach or visibility as necessary for services to reach youth, previous studies, to our knowledge, have not examined adolescents' perceived access to services for a range of health problems. To better understand adolescents' opinions of their access to health care, we assessed adolescents' use and knowledge of health services, perceived access to services, and barriers to access faced by a random, community-based sample of adolescents.

Table 1. Sample Characteristics*

	Rochester, NY (n = 146)	Suburbs (n = 113)	Total (N = 259)	P
Average age, y	16.1	16.1	16.1	...
Female, %	50.7	61.9	55.6	.07
Nonwhite, %	43.4	10.0	28.5	<.001
>1 Parent high school graduate, %	89	100	94	.003
Reporting excellent or good health status, %	89	94	92	.23
Degree of worry about health†	1.8	1.8	1.8	...

*Ellipses indicate not applicable.

†1 indicates not at all worried; >5, very worried.

RESULTS

RESPONSE RATES AND DEMOGRAPHICS

A total of 11 800 telephone numbers were called: 7600 in the city areas and 4200 in suburban areas. Households included 4449 (40%) of 11 065 numbers reached. There were eligible adolescents in 393 (8.8%) of the 4449 households reached. In the city, 195 (7.17%) of 2718 households had eligible adolescents, and in the suburbs, 198 (11.4%) of 1731 households had eligible adolescents. We were unable to reach people at 735 telephone numbers after 10 or more attempts.

Of 393 households with adolescents, we completed 259 interviews (66%). The city and suburban response rates were 75% and 57%, respectively. Using standard assumptions of the Council of American Survey Research Organizations,¹⁷ we allocated unreachable telephone numbers to households and eligible subjects. Thus, our sample consisted of a total of 4744 households, of which 419 had teenagers, resulting in an overall response rate of 62%, adjusted for unreached numbers. In 78 (26%) of 259 households surveyed there was more than 1 adolescent. In 11 of these households, we could not determine whether we spoke with the oldest or youngest adolescent; in 35 (52%) of the remaining 67 households, we interviewed the older adolescent.

Slightly more than half (55%) of the respondents were female (**Table 1**). Almost three fourths (72%) were white, 19% were black, 3% Puerto Rican, 2% Asian, and 3% of other ethnicity. Within the city, 57% of respondents were white, compared with 90% in the suburban areas of the county. Most adolescents (83%) attended high school, 8% were in junior high, 4.5% in college, and 4% were not in school. Most adolescents (80%) live with 2 adults, 17% live with 1 parent, and 3% live alone or in other situations. In the city, 79% live with 2 adults (18% of whom live with a stepparent), 15% with 1 parent, 3% alone, 2% with a foster parent, and 1% with friends or a spouse. In the suburbs, 82% live with 2 adults (8% have stepparents) and 18% live with 1 parent. (Differences between the city and suburban parts of our sample are shown in Table 1.)

Eighty percent of mothers and 94% of fathers work outside the home. In the city 76% of mothers and 90%

of fathers work and in the suburbs 85% of mothers and 98% of fathers work. Five percent of parents had less than a 12th grade education, 24% had graduated high school, 8% had some college, 51% were college graduates, and 12% had graduate or professional degrees. All households in which neither parent had finished high school were in the city. In the suburbs, at least 1 parent in 18% of the households had a graduate or professional degree, compared with 8% in the city.

HEALTH STATUS AND DEGREE OF CONCERN ABOUT HEALTH

Almost all (92%) adolescents rated their health as excellent or good, 7% reported their health status as fair, and 2% reported their health status as poor. Suburban adolescents were more likely to rate their health as better, compared with city youth. Half the adolescents reported not worrying at all about their health in the last month. More city adolescents reported that they had felt fairly or very worried about their health than did suburban adolescents. One in 7 adolescents also reported having a chronic health problem, such as asthma or diabetes, for which they regularly received health care. Only 3% of respondents reported ever having had a serious health problem that went untreated.

HEALTH CARE USE

Periodicity and Preventive Care Use

Most adolescents (90%) reported that their last visit to a health care source occurred within the year. Thirty-eight percent reported having gone within the last month; 33%, 1 to 6 months ago; and 19%, 6 to 12 months ago. The timing of adolescents' last visits did not vary by whether adolescents were in the city or suburbs. Most respondents (82%) also reported that they had a well visit or routine check-up within the past year, and an additional 12% reported having had routine care 1 to 2 years ago. Recent dental visits were also common: 64% of both city and suburban respondents had been to a dentist within the last 6 months, and 90% within the last 2 years.

Patterns of Care Use

Most adolescents (88%) identified a source of primary care. More than 1 (27%) in 4 adolescents reported using 1 or more sources of health care aside from their primary care provider, and 3% reported using 2 or more other providers. Additional providers named most frequently were gynecologists, dermatologists, orthopedists, and ophthalmologists. Many respondents naming a source of primary care named physicians in private practice (63%) (**Table 2**). More suburban adolescents named private practices as their primary care source than did city adolescents (80% vs 49%; $P < .001$). Seven percent of adolescents reported using physicians who were subspecialists or using emergency departments as their source of primary care. In 47% of the adolescent interviews for which parents were also interviewed, we asked parents to identify their adolescents' primary care source. Sixty-eight percent of parent and ado-

Table 2. Sources of Primary Care

Source	No. (%) of Respondents		
	Rochester, NY	Suburbs	Total
Primary care physician	72 (49)	90 (80)	162 (63)
Other physician	9 (6)	10 (9)	19 (7)
Community health center	15 (10)	0 (0)	15 (6)
Planned Parenthood	1 (0.7)	1 (0.9)	2 (0.8)
Hospital clinic	27 (18)	7 (6)	34 (13)
Health maintenance organization clinic	14 (10)	3 (3)	17 (7)
Other primary care sources	3 (2)	0 (0)	3 (1)
No regular source of care	5 (3)	2 (2)	7 (3)
Total	146	113	259

lescent pairs reported the same physician's name. There was partial agreement in another 19% of cases (eg, the same practice but different physicians). In 13%, parents and adolescents identified different sources of primary care. Nearly all adolescents (96%) reported that a nurse was available in their school, and 83% of respondents reported having seen a school nurse in the last school year. Of these, 21% reported going once, 41% reported 2 to 4 visits, and 20% reported 5 or more visits.

ACCESS TO CARE

To assess adolescents' knowledge of the availability of services, participants were asked where they would go for care for 10 common adolescent health problems: a bad sore throat; birth control; a suspected pregnancy; a suspected sexually transmitted disease (STD); vision problems; a sports injury; counseling for personal problems; dental problems; problems with alcohol and drugs; and for information about acquired immunodeficiency syndrome (AIDS). (Multiple responses for each problem were permitted, thus percentages may total more than 100%.)

Primary care physicians were the source most often cited: a bad sore throat (71%), sports injury (53%), possible STD (49%), and for information about AIDS (29%). Other problems for which adolescents reported they would consult their physician include obtaining birth control (30%), suspected pregnancy (30%), vision trouble (22%), alcohol and drug abuse (6%), and counseling for personal problems (5%). For help with a suspected STD, several adolescents commented that they would go to a physician they did not already know.

Health centers were identified as sources of care for a possible STD (12%), family planning (9%), suspected pregnancy (8%), information about AIDS (8%), sore throat (4%), sports injury (4%), dental problems (4%), problems with alcohol or drugs (4%), vision problems (6%), and for substance abuse (3%). Not surprisingly, adolescents most commonly mentioned family planning agencies as sources of care for suspected pregnancies and birth control needs.

Adolescents also turn to school for help with many problems. They are more likely to seek help at school than elsewhere for counseling for personal problems (34%). Additionally, adolescents reported they would seek help at school for the following: information about AIDS and human immunodeficiency virus (HIV) (18%), alcohol

problems (14%), sports injury (8%), bad sore throat (7%), and vision trouble (4%). Only a few adolescents named hospital clinics as a potential source of care. Hospital clinics were cited as a source of help for alcohol or drug problems (6%), suspected STD (5%), sore throat (4%), HIV and AIDS information (4%), and sports injury (4%). Hospital emergency departments were also named infrequently as a source of care, except that 14% of adolescents reported that they would go to an emergency department for a sports injury. No adolescents identified the local health department as a source of care for any of the problems asked about.

Parents were not the most common source of help for any of these health problems; however, they were mentioned by some adolescents as potential sources of assistance for each type of problem: 9% would talk to their parents about alcohol or drug use, 6% about suspected pregnancy, 5% about birth control, and 1% about STDs. In addition, 3% would seek help from their parents for a bad sore throat or vision trouble, 2% for a sports injury, dental problems, or help with personal problems, and 1% for HIV or AIDS information.

Among the other resources adolescents reported that they would use for help with some of these health problems, Alcoholics Anonymous was the most frequently named source of care for alcohol and drug abuse (19%). A freestanding youth service center was named by 1 respondent as a source of information about HIV and AIDS. Other youth service agencies, an AIDS service and outreach agency, churches, and friends were also mentioned by 1% to 2% of adolescents.

Adolescents also reported using grocery or drug-stores for various problems they could solve using self-care. Thus, 6% said they would go to stores to obtain birth control and 2% would go to stores for both help with sore throats or for suspected pregnancies.

PERCEIVED ACCESS TO CARE

A sizable proportion of adolescents were not able to identify a source of health care for some of the 10 health problems identified. Adolescents were least likely to know of a source of care for mental health and reproductive health needs. Eighteen percent of teenagers did not know where to get counseling and 16% did not know where to get help for alcohol or drug abuse. Additionally, 10% of teenagers did not know where to find care for each of the following health problems: birth control, suspected pregnancy, suspected STD, or for HIV and AIDS information. Only a small percentage of teenagers did not know where to get care for sports injuries (3%), dental problems (3%), sore throat (2%), or eye trouble (2%). Adolescents who were younger, male, and white were least likely to know where to go for mental health or reproductive services. Adolescents who reported not knowing where to go for one type of problem were also more likely not to know where to go for other services.

CONFIDENTIAL SERVICES

More than half of the adolescents surveyed knew of a place where they could receive confidential care (**Table 3**).

Table 3. Knowledge and Use of Confidential Services

	Confidential Services			
	Know About, No. (%)	P	Have Used, No. (%)	P
Age, y				
14-15	47 (46)	.09	3 (3)	.003
16-17	56 (56)		10 (9)	
18-19	35 (66)		8 (16)	
All ages	138/255 (54)		21/250 (8)	
Sex				
Female	80 (56)	.40	17 (12)	.01
Male	58 (51)		21/250 (8)	
All	138/255 (54)		21/250 (8)	
Race				
White	94 (53)	.60	12 (7)	.20
Nonwhite	40 (57)		8 (11)	
All races	134/246 (54)		20/243 (8)	

Table 4. Sources of Confidential Care Named

Source	No. (%) of Respondents		
	Rochester, NY	Suburbs	Total
Private physician	3 (4)	3 (5)	6 (5)
Community health center	11 (15)	5 (9)	16 (12)
Planned Parenthood	45 (63)	36 (62)	81 (64)
School	12 (17)	13 (22)	25 (19)
Hospital clinic	2 (3)	2 (3)	4 (3)
Threshold	2 (3)	0 (0)	2 (2)
Youth service agencies	3 (4)	1 (2)	4 (4)
Health department	1 (1)	1 (2)	2 (2)
Other	2 (3)	3 (5)	5 (4)
Total	81	64	145

Older adolescents were more likely to know of confidential care availability. However, boys and girls and white and nonwhite adolescents were equally likely to know of confidential care sources. In contrast, both girls and older adolescents were more likely to report having used confidential services. The specific types of care sources identified by these adolescents are shown in **Table 4**. Adolescents most frequently cited Planned Parenthood as a source of confidential care (64%). School health care providers, including school nurses, counselors, and physicians, were also named by 19% of all respondents. An inner-city community health center with an active teen clinic was named by 15% of city and 9% of suburban adolescents. Interestingly, only 5% of adolescents named their primary care physician as a source of confidential care (Table 4).

Only 8.4% of respondents reported actually having used services without their parents' knowledge. Confidential care that these adolescents had used included Planned Parenthood, school health services, the inner-city community health center clinic, and hospital clinics. None of the adolescents who reported having used school health care providers as a source of confidential care had school-based health clinics available at their schools. Older adolescents, females, and nonwhite ado-

lescents were more likely to report having used confidential services.

OTHER ACCESS BARRIERS

Overall, only 1% of adolescents reported that it was hard to gain access to health care. Neither distance nor transportation posed substantial barriers for these adolescents. More than 80% of the adolescents said that their primary health care source was less than 20 minutes from home and 94% said it was less than half an hour away. Only 5% of those from the suburbs and no adolescents from the city said that it was very hard or somewhat hard to get to their regular source of care.

COMMENT

This study reports on adolescents' access to and use of health care from teenagers' own perspective. We found that most adolescents in Monroe County have access to care and have used preventive care in the past year. However, in contrast to studies that have relied on parental sources of data, we also found that many adolescents (1 of 4) rely on multiple sources of care. Additionally, a substantial portion of youth do not know where to obtain confidential care for potentially needed services.

Most adolescents in our survey reported excellent or good health status and most do not worry much about their health. As in other studies of adolescent health, only a small proportion reported poor or fair health, and poorer, inner-city adolescents were more likely to report being less well or being worried.^{1,7,12} Most adolescents in Monroe County report that they are able to use services when they need them for serious health problems. Adolescents who believe themselves to be in poor health tended to worry more about their health, but were no more likely to have used health services. Thus, most adolescents in Rochester are able to gain access to care when they need it, at least for serious health problems.

Most adolescents reported having a regular source of health care and have used these services, and more than 4 in 5 reported having had a check-up or preventive health care visit in the past year. This is a high proportion. However, reports of health care visits may be skewed toward recent events, because "telescoping" and recency biases are common in surveys of health services use.¹⁸ Additionally, the adolescents in our sample reported a similarly high proportion of preventive visits as was reported by parents of adolescents in the 1988 National Health Information Survey Child Health Supplement.¹⁹ Thus, although fewer than 15% of adolescents' visits to office-based physician providers include objective documentation of provision of health supervision or preventive care,²⁰ it seems that a comparable proportion of adolescents believe that they have had a preventive care visit as found in studies that rely on parents' reports.

As found in other studies,²¹ most adolescents reported having a source of primary care. However, more than 1 in 10 did not have a primary care source. Nationally, 15% of adolescents are unable to identify a regular source of primary care.¹ Thus, while adolescents in Rochester may have better access to a health care system than

youth in some other communities in the United States, a significant number are still at risk for inadequate or fragmented health care.^{22,23}

Most (9/10) adolescents identified the same source of primary care (to the practice-site level) as did their parents. Among adults, 20% misclassify their source of health care.²⁴ Although there are no data on the validity of adolescents' reports of their own sources of health care, our findings suggest that adolescents are likely to agree with their parents. Thus, adolescents should be capable of reporting accurately about their own use of services (eg, in future National Health Information Survey or other data collection or surveillance efforts).

More than 1 in 4 adolescents also reported using more than 1 source of health care. While some of these visits were appropriate referrals to medical specialists, some were to sources of reproductive health care and/or to other sources of primary care. Many adolescents also used clinical services through their school nurse. Although the proportion of adolescents using school nursing services nationally is not known, 25% of all adolescents reported using nonphysician ambulatory care providers.²⁵ The degree to which this care substitutes for physician services is not known, and this includes telephone contacts and home visits as well as school, office, and clinic contacts. Many adolescents also identified schools as an important source of care for mental health needs, especially for counseling. These findings highlight the importance of integrating school and community efforts in adolescent health. Widespread implementation of comprehensive school health programs might both better meet these direct service needs and provide more information about community-based clinical services to adolescents in school.^{1,4,26}

Adolescents in our study reported their sources of primary care as places they would go for various medical problems in proportion to the kind of primary care sources they had identified. Thus, physicians, health centers, and hospital clinics were identified (in decreasing order) as potential sources for acute medical problems. Suburban youth more often identified private practitioners, and inner-city teenagers more often identified community-based or hospital clinics. However, many of the adolescents surveyed did not know where to go for mental health services (including counseling or drug or alcohol treatment) or for reproductive health needs (including contraceptives, HIV testing, or STD treatment). Adolescents readily identify family planning clinics as available for birth control or pregnancy-related services; however, these agencies are not as likely to be perceived as meeting STD-related or comprehensive needs.

The questions in our survey were hypothetical (ie, where would you go?) and thus may either underestimate or overestimate the proportion of adolescents who cannot find confidential care. However, the proportion who did not know where to find confidential care was high. And, if adolescents' knowledge of services availability is a reflection of their awareness of the system's capacity to serve, this suggests that many youth may not have access to services that they and/or their peers are likely to need. In this study, we were not able to separate out the effects of insurance or parental income on

access to care. Nonetheless, it is notable that those adolescents who do not know where to go for confidential care do not perceive their primary care providers as available to them for help with sensitive issues. Many youth delay or avoid seeking reproductive health services unless they are available confidentially.⁷ Overall, more than half of Monroe County adolescents could identify a source of confidential care. It is not surprising that many adolescents identified family planning clinics as available and confidential. However, nearly 1 in 5 also identified schools as an important source of confidential care, even though few respondents attended schools with clinical services on site. The utilization patterns among those who had used confidential care were similar to the patterns of perceived availability. Although most physicians believe in providing confidential care to youth,⁴ few adolescents named their physician as a source of confidential care, and none had used primary care providers (other than hospital or adolescent clinics) confidentially. We cannot know from this study whether physicians overreport their confidentiality practices, or the effect of these practices on confidentiality attitudes of adolescents. However, our data suggest that most adolescents either are not receiving confidentiality information or do not believe that confidential services are available from their primary care provider. Thus, as with providing school-based information, our findings have implications for clinicians and emphasize the importance of outreach efforts to make adolescents aware of the resources that are available both in their practices and their communities.

Finally, knowledge about the availability of services, confidentiality, and ability to pay have often been cited as issues affecting adolescents' access to health care.¹² However, for the adolescents we surveyed, traditional issues, such as transportation and distance from care, were relatively rare concerns among respondents.

Our study is limited in several ways. While random digit-dial telephone surveys maintain the anonymity of respondents, telephone surveys can only study those households that have telephones. Thus, while telephones are present in more than 93% of households in Monroe County,²⁷ many of the poorest households may not have had a telephone and so may have been excluded from this survey. The likelihood of participation in telephone surveys also varies by demographics: younger adolescents and females are more likely to be home and therefore more likely to participate, and ethnic minorities and low-income populations are also less likely to respond.²⁸⁻³⁰ While our adjusted response rate was 62%, response rates for randomly dialed telephone surveys are frequently lower, ranging from 43% to 86% in recent public health and medical literature.^{28,30-32} Additionally, in other studies, general population estimates are not substantially biased by telephone nonresponders^{29,30}; thus, although our findings are limited to a single geographic area, it is likely that our sample is reasonably representative of adolescents in Monroe County. While our sample included more females than males, and demographically there are slightly more 14- to 19-year-old males than females in Monroe County,²⁷ the adolescents surveyed were similar to census proportions for race and ethnicity. Additionally, 80% of responding households had 2

parents, compared with an actual proportion of 71%.²⁷ Furthermore, Rochester has a relatively strong system of community-based services and many adolescent health resources, compared to many other areas of the United States. Thus, our findings likely overestimate the degree to which the health care system is meeting adolescents' needs.

In general, individuals are less likely to respond to surveys that deal with sensitive issues,³³ and this survey raised a number of sensitive issues, including the use of confidential services and the need for mental health or reproductive health care. However, anonymous telephone surveys have been used to reliably measure adolescents' sexual- and drug-related behaviors.^{34,35} While none of the subjects terminated the survey during administration, we cannot determine whether the nature of the question (as described during our consent process) had an effect on participation or on the truthfulness of responses. Furthermore, although questions were designed to allow primarily yes/no responses, minimizing any effect of parents listening to adolescents, we were unable to assess the validity of adolescents' responses. Although no systematic patterns were detected in responses, some adolescents may have misinterpreted questions or may also have given false responses to avoid having to admit to the interviewer that they did not know the answers.

Our study demonstrates the importance of understanding adolescents' use of and need for health care services, including reproductive and mental health care services, which are often sought outside of the primary care realm. When in need of services, adolescents often look for help at school or from their primary care provider. However, many adolescents are unable to identify a source of care; they cannot identify specific resources for common health problems and almost half could not name a source of confidential care. These data highlight some of the nonfinancial access barriers experienced by teenagers. Effective adolescent health care programs should incorporate confidentiality policies and include outreach to youth. Clinically based education about how adolescents can gain access to the range of health care services that they may need are required. Clinicians and schools should both strive to make information about counseling and reproductive health care services available to adolescents. As managed care insurance becomes increasingly common, public health agencies should also take particular care to ensure that adolescents retain access to appropriate services.

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Reprints: Jonathan D. Klein, MD, MPH, Division of Adolescent Medicine, Strong Children's Research Center, University of Rochester Medical Center, 601 Elmwood Ave, Box 690, Rochester, NY 14642 (e-mail: jonathan_klein@urmc.rochester.edu).

REFERENCES

1. US Congress, Office of Technology Assessment. *Adolescent Health: Summary and Policy Options*. Washington, DC: US Government Printing Office; 1991. OTA-H-468.
2. Klein JD. Adolescent Health Services and Health Care Reform. In: Irwin CE, Brindis C, Holt K, Langlykke K, eds. *Health Care Reform: Opportunities for Improving Adolescent Health*. Washington, DC: National Center for Education in Maternal and Child Health; 1994.
3. Haggarty RJ. Community pediatrics. *N Engl J Med*. 1968;278:15-21.
4. Cheng TL, Savageau JL, Sattler AL, DeWitt TG. Confidentiality in health care: a survey of knowledge, perceptions, and attitudes among high school students. *JAMA*. 1993;269:1404-1408.
5. Newacheck PW, McManus MA. Health insurance status of children in the US. *Pediatrics*. 1988;82:462-468.
6. Ryan SA, Schollenberger J. Rural adolescents: perceived barriers to medical care [abstract]. *Pediatr Res*. 1993;33:8A.
7. Gans JE, McManus MA, Newacheck PW. *Adolescent Health Care: Use, Costs, and Problems of Access*. Vol 2. Chicago, Ill: American Medical Association; 1991.
8. Malus M, Lachance P, Lamy L, Macauley M, Vanasse M. Priorities in adolescent health care: the teenager's viewpoint. *J Fam Pract*. 1987;25:159-162.
9. Starfield B. *Primary Care: Concept, Evaluation, and Policy*. New York, NY: Oxford University Press Inc; 1992.
10. Millman M, ed. *Access to Health Care in America*. Washington, DC: National Academy Press; 1983.
11. Millstein SG, Petersen AC, Nightingale EO, eds. *Promoting the Health of Adolescents: New Directions for the Twenty-First Century*. New York, NY: Oxford University Press Inc; 1993.
12. Klein JD, Slap GB, Elster B, Schonberg SK. Access to health care for adolescents. *J Adolesc Health*. 1992;13:162-170.
13. *Haines Criss-Cross Directory*. Schaumburg, Ill: Haines & Co; 1993.
14. Weisglöz AT, Nicholls E, Biro E, MacWilliam L, Mao Y. Random digit dialing. *Can J Public Health*. 1987;78:201-202.
15. Harlow BL, Davis S. Two one-step methods for household screening and interviewing using random digit dialing. *Am J Epidemiol*. 1988;117:632-633.
16. Stewart AL, Hays RD, Ware JE. The MOS Short-form General Health Survey: reliability and validity in a patient population. *Med Care*. 1988;26:724-735.
17. Council of American Survey Research Organizations. *On the Definition of Response Rates: Special Report of the CARSO Task Force on Completion of Rates*. Port Jefferson, NY: Council of American Survey Research Organizations; 1982.
18. Zimmer-Gembeck MJ, Alexander T, Nystrom RJ. Adolescents report their need for and use of healthcare services. *J Adolesc Health*. 1997;21:388-399.
19. Lieu TA, Newacheck PW, McManus MA. Race, ethnicity and access to ambulatory care among US adolescents. *Am J Public Health*. 1993;83:960-965.
20. Jobe JB, White AA, Kelley CL, Mingay DJ, Sanchez MJ, Loftus EF. Recall strategies and memory for health-care visits. *Milbank Q*. 1990;68:171-189.
21. Igra V, Millstein S. Current status and approaches to improving preventive services for adolescents. *JAMA*. 1993;269:1408-1413.
22. Hedberg VA, Byrd R, Klein J, Auinger P, Weitzman M. Community health centers' role in providing preventive care to adolescents. *Arch Dis Child Adolesc*. 1996;150:603-608.
23. Brindis CD, Lee PR. Public policy issues affecting the health care delivery system of adolescents. *J Adolesc Health*. 1990;11:387-397.
24. Perloff JD, Morris NM. Validating reporting of usual sources of health care. In: *Health Survey Research Methods: Conference Proceedings*. Washington, DC: US Dept of Health and Human Services, National Center for Health Services Research and Health Care Technology Assessment; 1989:59-64.
25. Monheit AC, Cunningham PJ. *Children Without Health Insurance: The Future of Children*. Packard Foundation; 1992;1:154-170.
26. *Turning Points: Preparing American Youth for the 21st Century*. New York, NY: Carnegie Corp; 1989.
27. US Bureau of the Census. *Statistical Abstracts of the United States: 1992*. Washington, DC: US Bureau of the Census; 1993.
28. Thornberry OT, Massey JT. Coverage and response in RDD National Health Surveys. *Proc Am Stats Assoc Soc Stats Section*. 1982:63-72.
29. Marin G, Vanoss B, Peerez-Stabile EJ. Feasibility of telephone survey to study a minority community: Hispanics in San Francisco. *Am J Public Health*. 1990;80:323-326.
30. Marcus AC, Crane LA. Telephone surveys in public health research. *Med Care*. 1986;24:97-112.
31. Remington PL, Smith MY, Williamson DF, Anda RF, Gentry EM, Hogelin GC. Design, characteristics, and usefulness of state-based behavioral risk factor surveillance: 1981-87. *Public Health Rep*. 1988;103:366-375.
32. Weisglöz AT, Nicholls E, Biro E, MacWilliam L, Mao Y. Random digit dialing. *Can J Public Health*. 1987;78:201-202.
33. Mangione TW, Hingson R, Barrett J. Collecting sensitive data: a comparison of three survey strategies. *Soc Methods Res*. 1982;10:337-346.
34. Hingson R, Strunin L. Validity, reliability and generalizability in studies of AIDS knowledge, attitudes and behavioral risks based on subject self-report. *Am J Prev Med*. 1993;9:62-64.
35. Aquilino WS. Telephone versus face-to-face interviewing for household drug use surveys. *Int J Addict*. 1992;27:71-91.

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