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RESEARCH ARTICLE

Utilization of Mental Health Services in Educational Setting by Adolescents in the United States

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ABSTRACT

BACKGROUND: Schools play an important role as providers of mental health services for adolescents; however, information on the broader picture of utilization of mental health services in educational versus other settings is limited because of the lack of national-level data.

METHODS: Using multinomial logistic regression models based on national-level data from the 2012-2015 National Survey on Drug Use and Health, we explore the characteristics of adolescents who received mental health treatment in educational and other settings. In addition, the study examines the reasons for seeking services in various treatment settings.

RESULTS: The analysis finds that while the majority of adolescents who access mental health services receive care at noneducational settings, slightly more than one-third of them received services only in an educational setting. Adolescents who had public insurance, were from low-income households, and were from racial/ethnic minority groups were more likely to access services in an educational setting only. Common reasons for accessing services in educational settings included problems with schools, friends, and family members.

CONCLUSIONS: Despite increased access to treatment in outpatient settings in the last decade, schools play an important role in providing access to mental health services for disadvantaged populations.

Keywords: school-based mental health; adolescents; mental health.

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Schools are the primary place where children spend the majority of the time when they are outside of the home. Schools are major institutions in children's lives, providing various services over the course of many hours on a typical weekday.¹ For this reason, schools are considered by many

observers to be an appropriate setting for providing mental health services, and school-wide mental health interventions, as well as individually focused services, have increasingly been provided in schools around the country in recent years.² According to 2015 data from the National Survey on Drug Use and Health

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(NSDUH), approximately 3.2 million adolescents in the United States received mental health services in an educational setting.³ Although improvement of health is not the primary mission of the education sector, schools nevertheless may have extensive influence in shaping children's health and long-term development outcomes.¹

A number of legislative and policy developments in the last 2 years have included elements intended to facilitate access to mental health services in schools, including several provisions in the 21st Century Cures Act, the Every Student Succeeds Act (ESSA), and the reversal of the Centers for Medicare & Medicaid Services (CMS) Free Care Policy. The 21st Century Cures Act reauthorized the Mental Health First Aid program, which provides mental health awareness training for school staff and teachers to recognize and intervene in mental health crises that students may be experiencing. The Act also reauthorized the Mental and Behavioral Health Education Training Grants, which include funding for school psychology and counseling. At least 20% of ESSA funds are required to be allocated to programs related to safe and healthy students, and that can include school-based behavioral health services. Further, in December 2014, reversal of the CMS Free Care Policy allowed schools to use Medicaid funding for health programs provided free of charge to students, such as counseling.

Schools have long relied on Medicaid to pay for medically necessary services for students with behavioral health needs. For students in Individualized Education Program (IEP) plans under the Individuals with Disabilities Education Act (IDEA), certain school-based services are billable to Medicaid. To take advantage of IDEA grants, school districts must determine the allowable services that could be billed to Medicaid. Schools typically choose to bill Medicaid for direct clinical services, such as mental health services, physical therapy, speech therapy, and occupational therapy, while IDEA funds are used to address disabilities that are limiting students' educational achievement. The dichotomy between Medicaid and IDEA funding for children and adolescents receiving special education is important for reimbursement of services at the school level.

Previous literature has documented various socioeconomic factors as predictors of behavioral health service utilization in an educational setting. For example, a positive association between low family income and use of mental health services in school settings has been found,^{4,5} although more recent studies have not confirmed this association. Lyon et al,⁶ found that higher parental income is related to higher usage of school mental health services, while according to Langer et al⁷ socioeconomic status was not a predictor of either school or outpatient mental health use. Locke et al² reported evidence of non-Hispanic

black students with attention-deficit/hyperactivity disorder (ADHD) being more likely to use in-school behavioral health services and less likely to use out-of-school behavioral health services, compared to their non-Hispanic white counterparts. Additionally, Hispanic students were less likely to report in-school mental health services utilization, especially if they come from Spanish-speaking-only families.^{8,9} A more recently published study in school-based health centers in Connecticut, students in the white/other ethnicity category had higher proportions of mental health visits than Hispanic and black students in ages 12-15, while Hispanic students had had lower proportion of mental health visits than black students in most age groups.¹⁰

Prior research has also found that schools are an important setting for receiving mental health services and are often the most common point of entry for services.^{11,12} However, the reasons why students are more likely to seek services at a school or educational setting have generally not been examined. Some studies have found that students with externalizing behaviors are more likely to have their behavioral issues addressed in educational settings.^{13,14} A major limitation of prior studies of the delivery of school mental health services is the coverage of specific geographic areas from which the sample is recruited. Few studies have used population-based surveys to look at the utilization of mental health services in educational settings compared to utilization of services in noneducational settings. The present study is the first to utilize a nationally representative sample of adolescents to identify factors associated with their use of mental health services in educational settings only, both educational and noneducational settings, and noneducational settings only. In particular, we examine the relationship between the reasons for seeking mental health services and the settings in which students receive them.

METHODS

Data

We utilize data from the 2012-2015 NSDUH, a nationally representative survey of the noninstitutionalized population in the United States conducted annually by the Substance Abuse and Mental Health Services Administration. The NSDUH collects detailed information on use of alcohol and illicit drugs, mental and substance use disorders, utilization of a variety of behavioral health treatments, and settings of treatment received for behavioral health conditions.¹⁵

The NSDUH asks all adolescent respondents (aged 12 to 17) questions on mental health treatment utilization and the settings in which they received those services. Specifically, adolescents were asked whether they have received any treatment or

counseling during the past 12 months for problems with emotions or behavior that were not caused by alcohol or drugs. Since the focus of this study is on treatment setting for mental health services among adolescents, the sample is restricted to individuals aged 12 through 17 who reported receiving any treatment for emotional or behavioral problems (unadjusted pooled $N=18,000$). All estimates are weighted to account for NSDUH's complex survey design and to make the estimates nationally representative (weighted pooled $N\approx 5.5$ million). Comprehensive information on the NSDUH data collection methods and survey design can be found elsewhere.¹⁵

Measures

Respondents were asked if they received services for problems with emotions or behavior in the following 3 settings: (1) *inpatient or outpatient specialty mental health setting* (stayed overnight in a hospital, stayed in a residential treatment facility, spent time in a day treatment facility, received treatment from a mental health clinic, treatment from a private therapist, treatment from an in-home therapist); (2) *educational setting* (talked to school social worker, school psychologist, or school counselor for problems, attended a special school or participated in a special program at a regular school); and (3) *general medical setting* (received treatment from a pediatrician or other family doctor). Based on this, a categorical dependent variable with 3 mutually exclusive treatment setting categories was constructed: treatment in educational setting only, treatment in noneducational setting only (general or specialty mental health setting) and treatment in both educational and noneducational setting.

One of the primary independent variables of interest in the empirical model is the reason for getting treatment. NSDUH asks respondents a series of 13 questions related to the reasons for getting treatment, and respondents could select multiple reasons from those; thus the response categories are not mutually exclusive. Reasons for receiving treatment for emotional or behavioral problems include: internalizing behaviors (thinking about or attempting suicide; feeling depressed; feeling very afraid or tense); externalizing behaviors (having broken rules or "acted out"; eating problems; having trouble controlling anger; getting into physical fights); problems with interpersonal relationships (having problems with home or family situations; having problems with friends; having problems with other people besides family/friends; having problems at school); having a diagnosed mental health disorder; and other reasons.

The study has a control variable for health insurance status. Health insurance status is measured by a categorical variable with 3 mutually exclusive categories:

private insurance, public insurance (Medicaid/CHIP, veteran's insurance, dual eligible also enrolled in Medicare), and uninsured. The survey does not include a question about specific mental health diagnosis, but there is an indicator for major depressive episode (MDE), which is included in the analysis. The NSDUH contains questions to assess symptoms of MDE during the past year, using the criteria specified within the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders*.¹⁵ MDE is defined as a period of at least 2 weeks when the adolescent experienced a depressed mood or loss of interest or pleasure in daily activities, and other symptoms. In addition, variables in the analysis also include substance use indicators (any illicit drug use in the past 30 days, any alcohol use in the past 30 days, any cigarette use in the past 30 days) and the respondent's demographic characteristics, such as age, sex, race, federal poverty level (FPL), family structure (2-parent household, mother-only household, father-only household), geographic region (Midwest, South, West, Northeast), and self-rated physical health status (excellent, very good, good, fair/poor).

Data Analysis

Multinomial logistic regression is utilized in the study since the dependent variable is a categorical variable of more than 2 unordered mutually exclusive outcomes. As noted previously, the 3 treatment setting categories are: (1) educational setting only; (2) noneducational setting only; and (3) both educational and noneducational setting. Noneducational setting only is the reference group for the calculations of the relative risk ratios (RRR), and for each independent variable this produces 2 RRRs. For example, in the case of health insurance, this estimates the association of the type of health insurance with treatment setting in modeling 2 logit models simultaneously. (1) Comparing treatment in an educational setting only with treatment in a noneducational setting only; and (2) comparing treatment in both educational and noneducational settings with treatment in a noneducational setting only.

RESULTS

Descriptive Estimates of Adolescent Characteristics by Treatment Settings

Thirty-five percent of all adolescents who received treatment for an emotional or behavioral problem in the past year received it in an educational setting only, and 23% received treatment in both an educational and noneducational setting (Table 1). The largest share of adolescents (42%) received treatment in a noneducational setting only (specialty or general medical setting). Among adolescents who received treatment in an educational setting only, 51% had

Table 1. Characteristics of Adolescents Who Received Treatment for Emotional or Behavioral Problems in the Past 12 Months by Treatment Setting (2012-2015 NSDUH)

	Educational Setting Only Proportion (SE)	Educational and Noneducational Setting Proportion (SE)	Noneducational Setting Only (Specialty or General Setting) Proportion (SE)
Age			
12-13	0.37 (0.01)	0.32 (0.01)	0.29 (0.01)
14-15	0.37 (0.01)	0.37 (0.01)	0.35 (0.01)
16-17	0.26 (0.01)	0.31 (0.01)	0.36 (0.01)
Female	0.51 (0.01)	0.65 (0.01)	0.57 (0.01)
Race			
Non-Hispanic white	0.48 (0.01)	0.56 (0.01)	0.62 (0.01)
Non-Hispanic black	0.20 (0.01)	0.15 (0.01)	0.11 (0.01)
Hispanic	0.22 (0.01)	0.21 (0.01)	0.20 (0.01)
Non-Hispanic other	0.09 (0.01)	0.08 (0.01)	0.07 (0.01)
Family structure			
Two-parent household	0.69 (0.01)	0.65 (0.01)	0.67 (0.01)
Mother-only household	0.27 (0.01)	0.30 (0.01)	0.27 (0.01)
Father-only household	0.05 (0.01)	0.06 (0.01)	0.06 (0.01)
Health insurance			
Private	0.51 (0.01)	0.52 (0.01)	0.56 (0.01)
Public	0.42 (0.01)	0.44 (0.01)	0.40 (0.01)
Uninsured	0.07 (0.01)	0.04 (0.01)	0.04 (0.01)
Federal poverty level			
< 138%	0.38 (0.01)	0.35 (0.01)	0.31 (0.01)
138-400%	0.41 (0.01)	0.41 (0.01)	0.42 (0.01)
> 400%	0.21 (0.01)	0.23 (0.01)	0.27 (0.01)
Major depressive episode	0.16 (0.01)	0.37 (0.01)	0.24 (0.01)
Reasons for receiving treatment			
Internalizing behavior			
Thought about killing self or tried to kill self	0.05 (0.00)	0.20 (0.01)	0.07 (0.01)
Felt depressed	0.20 (0.01)	0.48 (0.01)	0.15 (0.01)
Felt very afraid and tense	0.09 (0.01)	0.23 (0.01)	0.06 (0.01)
Externalizing behavior			
Broke rules and acted out	0.12 (0.01)	0.18 (0.01)	0.06 (0.01)
Had eating problems	0.03 (0.01)	0.09 (0.01)	0.03 (0.01)
Had trouble controlling anger	0.06 (0.01)	0.12 (0.01)	0.04 (0.01)
Got into physical fights	0.02 (0.01)	0.04 (0.01)	0.01 (0.01)
Problems with interpersonal behavior			
Had problems with home/family	0.09 (0.01)	0.19 (0.01)	0.07 (0.01)
Had problems with friends	0.12 (0.01)	0.15 (0.01)	0.02 (0.01)
Had problems with people other than family/friends	0.06 (0.01)	0.09 (0.01)	0.02 (0.01)
Had problems at school	0.14 (0.01)	0.21 (0.01)	0.04 (0.01)
Had other diagnosed mental disorder	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Other	0.05 (0.01)	0.14 (0.01)	0.10 (0.01)
Substance use			
Any illicit drug use in the past 30 days	0.08 (0.01)	0.11 (0.01)	0.11 (0.01)
Any alcohol use in the past 30 days	0.11 (0.01)	0.14 (0.01)	0.16 (0.01)
Any cigarette use in the past 30 days	0.05 (0.01)	0.09 (0.01)	0.10 (0.01)
Self-rated health			
Excellent	0.31 (0.01)	0.25 (0.01)	0.26 (0.01)
Very good	0.42 (0.01)	0.42 (0.01)	0.43 (0.01)
Good	0.22 (0.01)	0.26 (0.01)	0.26 (0.01)
Fair/poor	0.05 (0.01)	0.07 (0.01)	0.06 (0.01)
Rural	0.14 (0.01)	0.13 (0.01)	0.15 (0.01)
Geographic region			
Northeast	0.19 (0.01)	0.21 (0.01)	0.18 (0.01)
Midwest	0.22 (0.01)	0.23 (0.01)	0.22 (0.01)
South	0.36 (0.01)	0.32 (0.01)	0.37 (0.01)
West	0.24 (0.01)	0.23 (0.01)	0.23 (0.01)
Weighted N	2.0 million	1.2 million	2.3 million
Weighted proportion	0.35 (0.01)	0.23 (0.01)	0.42 (0.01)
Unweighted N	6100	4300	7600

private insurance, 42% had public insurance, and 7% were uninsured. Forty-one percent of adolescents who received treatment in an educational setting only had family incomes between 138% and 400% of FPL; 48% were non-Hispanic white; and 20% were non-Hispanic black. Similar rates of health insurance and income were also observed among adolescents who received treatment in both educational and noneducational settings. Compared to other settings, a higher percentage of adolescents who received treatment in a noneducational setting only had private insurance (56%) while a similar percentage (42%) had family incomes between 138% and 400% of FPL. The highest prevalence of non-Hispanic whites (62%) accessing services was in a noneducational setting, which also had the lowest percentage of non-Hispanic blacks (11%) accessing mental health services compared to other settings. The prevalence of MDE was highest among students who access services in both settings (37%). In contrast, 24% of adolescents who accessed services in a noneducational setting only had MDE, and only 16% of students who accessed services in an educational setting only had MDE. Across all treatment settings, at least 65% of adolescents lived in a 2-parent household. The majority of students receiving services were female, regardless of whether they got services in an educational setting only, both an educational and noneducational setting, or in a noneducational setting only. The proportion of females was highest in the group receiving services in both educational and noneducational settings.

Feeling depressed was the most common reason for accessing mental health services among adolescents who were seen in an educational setting only (20%). Other commonly reported reasons for accessing services in an educational setting only include having problems at school (14%), having problems with friends (12%), breaking rules or acting out (12%), and having problems with home or family situation (9%). Forty-eight percent of adolescents who received treatment in both an educational and noneducational setting identified feeling depressed as their reason for getting treatment. Other frequently reported reasons for receiving treatment at both an educational and noneducational setting included feeling very afraid or tense (23%), having problems at school (21%), thinking about or attempting suicide (20%), and having problems with home or family situation (19%). Similar to those seeking services in an educational setting only and in both an educational and noneducational setting, feeling depressed was the most commonly reported reason for receiving services in a noneducational setting only (15%). Other commonly identified reasons for receiving services in a noneducational setting only include thinking about or attempting suicide (7%), having problems with home

or family situation (7%), feeling very afraid or tense (6%), and breaking rules or acting out (6%).

Multinomial Logit Estimates of Treatment Setting Categories Among Adolescents Who Received Treatment for Emotional or Behavioral Problems

Table 2 presents the estimates for the multinomial regression models after accounting for an extensive set of control variables. The results show that compared to non-Hispanic whites, non-Hispanic blacks (RRR = 2.30, $p < .01$), Hispanics (RRR = 1.34, $p < .01$), and non-Hispanic others (RRR = 1.46, $p < .01$) have a higher relative risk of accessing services for emotional or behavioral problems in an educational setting only, relative to receiving treatment in a noneducational setting only. Having public insurance was also associated with a higher relative risk of receiving treatment for emotional or behavioral problems in an educational setting only, compared to receiving treatment in a noneducational setting only (RRR = 1.49, $p < .01$). In addition, adolescents who had family incomes below 138% of the FPL (RRR = 1.37, $p < .01$) and between 138% and 400% of FPL (1.24, $p < .01$) had a higher relative risk for receiving treatment in an educational setting only. Health insurance status and FPL were not statistically significant in receiving treatment in both an educational and noneducational setting, but being non-Hispanic black was associated with a higher relative risk of receiving treatment at both settings (RRR = 1.61, $p < .01$) compared to receiving treatment in a noneducational setting only.

Having problems with friends and having problems at school were associated with an increased relative risk of seeking treatment in an educational setting only, and these RRRs were the largest in magnitude compared to all other reasons for accessing services in an educational setting only. More specifically, adolescents who have problems with friends and who have problems at school had a 6 times and 3 times higher relative risk of obtaining treatment in an educational setting only, respectively. Having problems with people other than family/friends, feeling depressed, feeling afraid and tense, as well as breaking rules were also associated with an increased relative risk of accessing services in an educational setting only, compared to seeking treatment in a noneducational setting only. Suicidal ideation or suicide attempt and being diagnosed with a mental health disorder were associated with lower relative risk of receiving treatment in an educational setting only, compared to seeking services in noneducational setting only.

The RRR of having problems with friends (RRR = 4.07, $p < .01$) and having problems at school (RRR = 4.28, $p < .01$) were also the largest (relative to

Table 2. Multinomial Logistic Regression Estimates (Relative Risk Ratios) of Treatment Setting Among Adolescents Who Received Treatment for Emotional or Behavioral Problems in the Past 12 Months (2012-2015 NSDUH)

	Educational Setting Only RRR (95% CI)	Educational and Noneducational Setting RRR (95% CI)
Age		
14-15	0.88** (0.79, 0.99)	0.81*** (0.71, 0.93)
16-17	0.70*** (0.62, 0.80)	0.65*** (0.56, 0.75)
12-13 (reference)		
Female	0.73*** (0.66, 0.81)	0.95 (0.85, 1.07)
Race		
Non-Hispanic black	2.30*** (1.98, 2.67)	1.61*** (1.34, 1.95)
Hispanic	1.34*** (1.17, 1.54)	1.14 (0.97, 1.34)
Non-Hispanic other	1.46*** (1.23, 1.73)	1.08 (0.80, 1.35)
Non-Hispanic white (reference)		
Family structure		
Mother only	0.86** (0.77, 0.96)	1.06 (0.93, 1.21)
Father only	0.78** (0.64, 0.95)	0.98 (0.77, 1.24)
Two-parent household (reference)		
Health insurance		
Public	1.49*** (1.17, 1.89)	1.07 (0.77, 1.48)
Uninsured	0.97 (0.86, 1.09)	1.16 (1.00, 1.34)
Private (reference)		
Federal poverty level		
<138%	1.37*** (1.16, 1.62)	1.05 (0.87, 1.27)
138-400%	1.24*** (1.09, 1.41)	1.02 (0.88, 1.19)
>400% (reference)		
Major depressive episode	0.64*** (0.56, 0.73)	1.12 (0.97, 1.28)
Reasons for receiving treatment		
Internalizing behavior		
Thought about killing self or tried to kill self	0.67*** (0.54, 0.82)	1.20 (0.97, 1.48)
Felt depressed	1.68*** (1.47, 1.92)	3.82*** (3.30, 4.41)
Felt very afraid and tense	1.43*** (1.19, 1.72)	1.98*** (1.62, 2.41)
Externalizing behavior		
Broke rules and acted out	1.84*** (1.56, 2.18)	2.49*** (2.03, 3.04)
Had eating problems	0.91 (0.70, 1.19)	0.99 (0.74, 1.32)
Had trouble controlling anger	0.72*** (0.57, 0.91)	0.93 (0.69, 1.26)
Got into physical fights	1.43 (0.91, 2.26)	1.25 (0.74, 2.11)
Problems with interpersonal behavior		
Had problems with home/family	0.87 (0.72, 1.05)	1.31* (1.05, 1.65)
Had problems with friends	5.80*** (4.59, 7.33)	4.07*** (3.01, 5.50)
Had problems with people other than family/friends	2.02*** (1.49, 2.76)	1.37 (0.92, 2.05)
Had problems at school	3.12*** (2.59, 3.75)	4.28*** (3.45, 5.32)
Had other diagnosed mental disorder	0.08*** (0.03, 0.20)	0.62 (0.31, 1.23)
Other	0.51*** (0.42, 0.61)	1.47*** (1.23, 1.77)
Substance use		
Any illicit drug use in the past 30 days	0.91 (0.75, 1.11)	0.94 (0.77, 1.15)
Any alcohol use in the past 30 days	0.92 (0.79, 1.08)	0.86 (0.71, 1.03)
Any cigarette use in the past 30 days	0.69 (0.57, 0.85)	0.99 (0.80, 1.22)
Self-rated health		
Very good	0.86** (0.76, 0.96)	0.94 (0.82, 1.08)
Good	0.80*** (0.70, 0.91)	0.93 (0.79, 1.08)
Fair/poor	0.69*** (0.55, 0.86)	1.06 (0.83, 1.36)
Excellent (reference)		
Rural	1.07 (0.94, 1.23)	0.88 (0.74, 1.04)
Geographic region		
Midwest	0.98 (0.85, 1.12)	1.02 (0.85, 1.20)
South	0.84** (0.73, 0.96)	0.80** (0.67, 0.94)
Northeast	1.01 (0.87, 1.78)	1.19 (0.99, 1.40)
West (reference)		
Weighted N		5.5 million
Unweighted N		18,000

** p < 0.01, *** p < 0.001.

all other reasons) among those who received treatment at both educational and noneducational settings. Feeling depressed and breaking rules, as well as feeling afraid and tense were also associated with an increased relative risk of accessing services in both educational and noneducational setting compared to receiving services at noneducational settings only.

Some of the other factors significantly associated with treatment setting include age (older adolescents have lower RRR of receiving treatment in an educational setting only and in both educational and noneducational settings), living in a single-parent household (lowers the relative risk of obtaining treatment in an educational setting only), being diagnosed with MDE (lowers the relative risk of obtaining treatment in an educational setting only) and geographic region—residing in the South was associated with lower relative risk of obtaining treatment for emotional or behavioral problem in an educational setting only and in both an educational and noneducational setting.

DISCUSSION

Using data from the 2012-2015 NSDUH, this study explores the characteristics of adolescents who accessed mental health services for their emotional or behavioral problems in educational and noneducational settings. In addition, the study also examines their reasons for seeking treatment in the various treatment settings. The analysis finds that slightly more than a third of all adolescents who utilized mental health services did so in an educational setting only and overall 58% of all adolescents who received services accessed them in an educational setting (ie, either alone or in combination with a noneducational setting). Adolescents who had public insurance, were from a low-income households (below 400% of FPL), and were from racial/ethnic minority groups had higher relative risk of receiving treatment in an educational setting only.

The study further explored reasons for seeking mental health services. The analysis found that both externalizing and internalizing behaviors are related to school mental health service utilization, contrary to prior studies.^{13,14} We found that adolescents were more likely to access mental health services in an educational setting for problems related to school, friends, and family members. While feeling depressed was associated with an increased relative risk of receiving treatment in an educational setting, suicidal ideation or suicide attempt and being diagnosed with a mental health disorder (ie, major depressive disorder) were associated with lower relative risk of receiving treatment in an educational setting only.

Receipt of mental health services from a specialist provider can be appropriate given the student's

condition, and the results here show that students are getting services outside of educational settings for severe mental health problems. However, the results from this analysis support the notion that schools are an important source of mental health services for adolescents, especially for minority students and those coming from low-income households. There are certain advantages to the receipt of services through the school system. For example, there are fewer structural barriers associated with the need for transportation, reduced difficulty of finding a provider; and reduced reluctance to seek treatment in an unfamiliar setting. Indeed, prior studies have found that schools may be essential in reducing racial and economic disparities.^{16,17} In addition, delivery of mental health services in the school has the potential to improve accuracy of diagnosis and assessment of progress, since schools are more likely to have access to information concerning the functioning of the student in various environments (ie, physical, social, and academic), which is one of the primary challenges that specialty providers face.¹⁸

Limitations

The findings of this study should be viewed in the context of a number of limitations. First, the data were cross-sectional and based on self-reported measures. However, these limitations are not unique to this study, and the NSDUH is the only nationally representative dataset that contains information on not only mental health treatment settings, but also on the reasons for seeking treatment. Second, the NSDUH data do not provide information on the specific type of provider(s) from whom the student sought services (ie, the question asks only whether the student “talked with a school social worker, school psychologist, or school counselor about emotional or behavioral problems that were not caused by alcohol or drugs,” but does not permit the respondent to specify the discipline of the provider or providers). Similarly, neither the nature of the contact nor the type of treatment (eg, brief conversation, individual psychotherapy, group therapy session), nor the number of such contacts, is captured in the data. This same limitation is, however, found in other studies of school-based mental health service use (eg, even a single brief visit with a school counselor during the past 12 months may be counted as a youth receiving school mental health services).^{2,19} Further, “treatment” in this study includes a variety of outpatient and inpatient treatment services. For the purposes of this analysis we have not distinguished between the different mental health treatments and settings, other than school versus nonschool settings, as our goal was to describe the type of students who access mental health services in schools, not

the type of services they receive. Similarly, despite the importance of Medicaid-covered behavioral health services for students in special education, in this analysis students with an IEP are not distinguished from the general school population as NSDUH does not provide a variable on students participating only in special education.

Another limitation of this study is that it does not provide information regarding the availability of mental health providers and services in the respondent's school (ie, since not all schools have resources to support the provision of mental health services, it is possible that some students who might have wanted to seek mental health services in their school were not able to do so because such services were not available to them). Surveys have found that not all schools provide mental health services, and that there is also wide variation in the types and qualifications of providers available in schools across the United States. For example, the School Health Policies and Practices Study (SHPPS), conducted periodically by the US Centers for Disease Control and Prevention (CDC), reported in 2014 that 78% of schools had a part-time or full-time school counselor, 56.2% of schools had a part-time or full-time school psychologist, and 49.3% had a part-time or full-time school social worker.²⁰⁻²² Variability in school district budgets, as well as in their decisions about arrangements for provision of mental health services could be an important avenue for future research to explore. Schools often provide mental health services to students through a contract, memorandum of agreement, or other similar arrangement with professionals not located on school property. The most common arrangements with outside providers were with a local mental health or social services agency, a local health department, a community health clinic, or a local hospital.^{20,23,24} More detailed and recent national data on the frequency and nature of arrangements between school systems and specialty mental health providers, in order to further explore the availability of mental health services provided through schools, would be useful and important.

IMPLICATIONS FOR SCHOOL HEALTH

The study findings suggest 2 implications for school mental health service provision related to behavioral health disparities and the setting where treatment is provided. Study results indicated that minority students, those with public insurance, and students living in households with low income were more likely to utilize services in educational settings only. This finding suggests that school-based services are the primary source of treatment for some students of color, and so it is important that the school-based mental health treatments are provided by culturally competent providers.

The cultural competency of behavioral health clinicians is a national workforce issue.²⁵ Whereas many schools provide cultural competency trainings, others may need support in this area. Resources such as those provided by the National Center for Cultural Competence may be helpful.

The second implication regards the generally accepted view that schools are the primary site where behavioral health services are provided to this age group stemming from a seminal study in the field, which was conducted more than 2 decades ago.²⁶ However, this study's findings indicated that 42% of adolescents access mental health services in a noneducational setting only compared with 35% who accessed treatment in a school-based setting only, suggesting that the primary settings where children access mental health services may be changing, possibly due to the increasing provision of care in outpatient settings.^{27,28} In addition, this study's results suggested that adolescents are more likely to get treatment in educational settings for problems with friends, school and family—whereas for severe issues like suicide and major depressive episode they are less likely to get treatment at an educational setting only. These findings offer a more nuanced view of the settings where children receive treatment. To improve collaboration, school behavioral health staff might partner with primary care and specialty behavioral health providers through brown bag lunches and professional association meetings.²⁹

Human Subjects Approval Statement

The NSDUH data collection protocol was approved by the Institutional Review Board at RTI International.

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