

Reported Receipt of Mental Health Services by Adolescents Aged 12 to 17 in the Rural and Urban U.S., 2021

KEY FINDINGS

- In 2021, 18.0% of adolescents aged 12 to 17 years in rural counties and 18.4% in urban counties received specialty mental health services in the past year (for emotional or behavioral problems unrelated to alcohol or drugs).
- Approximately one in six (15.7%) adolescents aged 12 to 17 years reported receiving specialty outpatient mental health services from a private therapist, psychologist, psychiatrist, social worker, or counselor in an outpatient setting that is not part of a clinic in the past year, with slightly fewer rural adolescents (14.5%) receiving these services than urban adolescents (15.9%).
- Receiving inpatient specialty mental health services was uncommon, with 2.5% of adolescents aged 12 to 17 years reporting this type of mental health care in the past year. The percentage of adolescents who received inpatient specialty mental health services in inpatient treatment settings did not vary significantly by rurality (urban 2.4%, rural 2.8%) or Census Division.
- A total of 15.4% of adolescents aged 12 to 17 years in rural counties and 14.5% in urban counties received non-specialty mental health services in a non-specialty setting in the past year, such as those delivered in education, general medicine, juvenile justice, or child welfare settings.
- In 2021, more than one in ten adolescents aged 12 to 17 years in the U.S. (10.6%), or 2.7 million, reported receiving virtual (ie, telehealth) mental health services in the past year. Fewer adolescents in rural counties received virtual mental health services than urban adolescents (8.5% vs. 11.0%, $p < .05$).

BACKGROUND

This study characterizes the mental health services received by adolescents in rural and urban counties across the United States (U.S.) in 2021. Mental health services are defined as treatment or counseling received for emotional or behavioral problems unrelated to alcohol or drugs. Specifically, we estimate the percentage of adolescents aged 12 to 17 years who report having received the following services in the past year: specialty mental health services in inpatient and/or outpatient settings, treatment from a therapist or counselor, non-specialty mental health services, mental health services in a general medical setting, and virtual mental health services. Some cells of data are suppressed due to small sample sizes; this is discussed further in the limitations section. While national-level rural-urban comparisons are presented, this brief also examines receipt of services across Census Divisions, as national estimates may obscure regional variation in rural-urban differences.

METHODS

We used data from the 2021 National Survey on Drug Use and Health (NSDUH), administered annually by the Substance Abuse and Mental Health Services Administration (SAMHSA). We grouped respondents into geographic categories based on the 2013 U.S. Department of Agriculture Economic Research Service Rural-Urban Continuum Code (RUCC) county typology. We classified urban counties as those with RUCC codes 1-3: large metro (RUCC 1-2) and small metro (RUCC 3). Rural counties were those with RUCC codes 4 and higher (urbanized rural, RUCC 4-5; less urbanized rural, RUCC 6-7; and completely rural, RUCC 8-9). We calculated weighted frequencies for urban (metro) and rural (nonmetro) counties overall, the five geographic categories defined by RUCCs, and for Census Divisions. We used chi-squared tests to compare distributions across these groups. The NSDUH measures we used included receipt of services in specialty mental health settings (inpatient and outpatient), from a therapist or counselor, in a general medical setting, or virtually (via telehealth). We also examined the receipt of specialty mental health services for suicidal thoughts or behavior. The specific definitions and detailed methodology are available in the Appendix.

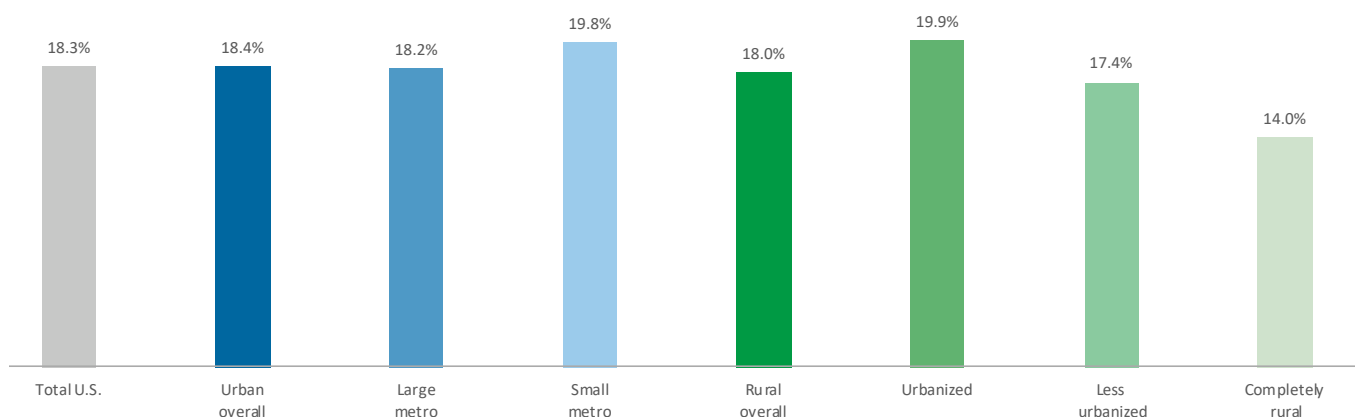
RESULTS

Past-Year Receipt of Specialty Mental Health Services in Any Setting

Specialty mental health services include those received in inpatient or residential settings, such as staying overnight in a hospital for mental health treatment or staying in a residential treatment facility, as well as outpatient mental services including treatment or counseling received from a private therapist, psychologist, psychiatrist, social worker, or counselor; at a mental health clinic or center; through partial day or day treatment programs; or in-home therapist, counselor, or family preservation worker.

Figure 1 shows the percentage of adolescents aged 12 to 17 years who received specialty mental health services in inpatient or outpatient settings in the past year by rurality and subcategories of geography. Nearly one-fifth (18.3%) of U.S. adolescents aged 12 to 17 years received specialty mental health services in the past year for behaviors or emotions unrelated to alcohol or drugs, equating to 4.7 million adolescents. Nationally, no significant differences were observed across rural categories (Figure 1).

Figure 1. Percentage of Adolescents Aged 12 to 17 Reporting Receipt of Specialty Mental Health Services in Inpatient or Outpatient Settings in the Past Year, Across Levels of Rurality, United States, 2021



Data source: National Survey on Drug Use and Health (NSDUH), 2021. Rural-Urban Continuum Codes (RUCCs, 2013) used to determine geographic categories described in Appendix Table A2.

Table 1 summarizes the percentage of adolescents who received specialty mental health services in an inpatient or outpatient setting in the past year, across Census Divisions and rurality. Across Census Divisions, the percentage of adolescents who received inpatient or outpatient specialty mental health services ranged from 15.9% (South Atlantic) to 22.5% (New England). Receipt of specialty mental health services was significantly lower in rural compared to urban counties in the West North Central (13.1% vs. 22.9%, $p < .01$), Mountain (14.2% vs. 21.9%, $p < .05$), and Pacific (9.5% vs. 17.9%, $p < .05$) Census Divisions. In contrast, receipt was significantly higher in rural West South Central counties (23.8%) compared to urban counties in the same division (15.9%) ($p < .01$).

Table 1. Percentage of Adolescents Aged 12 to 17 Who Received Specialty Mental Health Services in Inpatient or Outpatient Settings in the Past Year, by Census Division in Rural and Urban Counties, United States, 2021

	Overall (%)	Urban (%)	Rural (%)
National	18.3	18.4	18.0
New England	22.5	23.9	17.2
Middle Atlantic	18.7	18.3	26.4
East North Central	20.4	20.2	21.4
West North Central ^a	20.0	22.9	13.1
East South Central	17.7	17.9	17.4
South Atlantic	15.9	15.8	16.8
West South Central ^a	17.0	15.9	23.8
Mountain ^a	20.5	21.9	14.2
Pacific ^a	17.7	17.9	9.5

Data source: National Survey on Drug Use and Health (NSDUH), 2021. Rural-Urban Continuum Codes (RUCCs, 2013) used to determine geographic categories are described in Appendix Table A2, and Census Divisions and corresponding states are described in Appendix Table A3.

a. Significant difference between urban and rural counties within the indicated Census Divisions (chi-squared test $p < .05$).

Among adolescents aged 12 to 17 years who received specialty mental health services in an inpatient or outpatient setting in 2021, an estimated 1.5 million (35.0%) indicated that the reason for receiving their most recent specialty mental health service was due to thoughts of suicide or attempted suicide. Nationally, we did not observe significant differences by rurality in the percentage of adolescents receiving specialty mental health services for suicide specifically (rural counties: 40.4%, urban counties: 34.2%) (Table 2). Across Census Divisions, reported receipt of specialty mental health services because of contemplated or attempted suicide varied significantly ($p < .001$). In the West North Central Census Division, 49.1% of adolescents received inpatient or outpatient specialty mental health services because of contemplated or attempted suicide, more than double the percentage in New England (22.8%). The percentage of adolescents receiving inpatient or outpatient specialty mental health services because of contemplated or attempted suicide was significantly lower in rural compared to urban counties in the West North Central Census Division (30.7% vs. 53.1%, $p < .01$). Conversely, in the East North Central, South Atlantic, West South Central, and Mountain Census Divisions, the percentage of adolescents receiving specialty mental health services because of contemplated or attempted suicide was significantly higher in rural counties

Table 2. Percentage of Adolescents Aged 12 to 17 Whose Receipt of Specialty Mental Health Services in Inpatient or Outpatient Settings in the Past Year Was Due to a Contemplated or Attempted Suicide, by Census Division in Rural and Urban Counties, United States, 2021

	Overall ^a (%)	Urban ^a (%)	Rural ^a (%)
National	35.0	34.2	40.4
New England	22.8	23.1	18.7
Middle Atlantic	24.8	25.6	c
East North Central ^b	40.8	38.8	49.5
West North Central ^b	49.1	53.1	30.7
East South Central	30.7	32.1	28.4
South Atlantic ^b	40.3	38.3	52.4
West South Central ^b	30.4	26.7	46.8
Mountain ^b	36.5	34.9	49.2
Pacific	33.0	33.4	c

Data source: National Survey on Drug Use and Health (NSDUH), 2021. Rural-Urban Continuum Codes (RUCCs, 2013) used to determine geographic categories are described in Appendix Table A2, and Census Divisions and corresponding states are described in Appendix Table A3.

a. Significant difference across Census Divisions (chi-squared test $p < .05$).

b. Significant difference between urban and rural counties within the indicated Census Divisions (chi-squared test $p < .05$).

c. Data suppressed due to limited sample size.

Past-Year Receipt of Specialty Mental Health Services in Inpatient Treatment Settings

Table 3 reports the percentage of adolescents who received specialty mental health services in inpatient treatment settings in the past year, across Census Divisions and rurality. Specialty mental health services in the inpatient setting include treatment or counseling for emotional or behavioral problems unrelated to alcohol or drugs received in hospitals or residential treatment centers. Across adolescents aged 12 to 17 years, 2.5% received specialty mental health services in inpatient settings in the past year. Nationally, we did not observe any significant differences across rurality categories or across Census Divisions. Data from rural counties was suppressed for multiple Census Divisions.

Table 3. Percentage of Adolescents Aged 12 to 17 Who Received Specialty Mental Health Services in Inpatient Treatment Settings in the Past Year, by Census Division in Rural and Urban Counties, United States, 2021

	Overall (%)	Urban (%)	Rural (%)
National	2.5	2.4	2.8
New England	1.9	2.0	a
Middle Atlantic	1.1	1.2	a
East North Central	3.0	2.6	4.9
West North Central	2.0	2.4	a
East South Central	2.4	2.8	1.8
South Atlantic	2.8	2.8	a
West South Central	2.7	2.3	a
Mountain	3.1	3.3	2.2
Pacific	2.4	2.4	a

Data source: National Survey on Drug Use and Health (NSDUH), 2021. Rural-Urban Continuum Codes (RUCCs, 2013) used to determine geographic categories are described in Appendix Table A2, and Census Divisions and corresponding states are described in Appendix Table A3.

a. Data suppressed due to limited sample size.

Past-Year Receipt of Specialty Mental Health Services in Any Outpatient Setting

Table 4 shows the percentage of adolescents aged 12 to 17 years who received specialty mental health services in any outpatient setting in the past year. This composite measure captures whether adolescents spent time in a day treatment facility; received treatment at a mental health clinic or center; received treatment from a private therapist, psychologist, psychiatrist, social worker, or counselor in an outpatient setting; or received treatment from an in-home therapist or family preservation worker. An estimated 17.5% of adolescents aged 12 to 17 years (4.5 million) received specialty mental health services in outpatient settings in 2021. No significant differences were observed across rurality or by Census Division. In most Census Divisions, a lower percentage of adolescents in rural counties reported receiving specialty mental health services in outpatient settings compared to adolescents in urban counties (Table 4), with the lowest rate in the rural Pacific Census Division (8.9%). In West South Central, 15.3% of urban adolescents had a specialty mental health outpatient visit in the past year, compared to 21.6% of rural adolescents.

Table 4. Percentage of Adolescents Aged 12 to 17 Who Received Specialty Mental Health Services in Any Outpatient Setting in the Past Year, by Census Division in Rural and Urban Counties, United States, 2021

	Overall (%)	Urban ^a (%)	Rural (%)
National	17.5	17.6	16.6
New England	21.9	22.6	16.3
Middle Atlantic	18.4	18.0	26.3
East North Central	19.4	19.6	18.5
West North Central ^b	19.4	22.2	12.3
East South Central	16.0	15.3	17.1
South Atlantic	14.7	14.7	15.1
West South Central ^b	16.2	15.3	21.6
Mountain ^b	19.5	20.9	12.9
Pacific ^b	17.0	17.3	8.9

Data source: National Survey on Drug Use and Health (NSDUH), 2021. Rural-Urban Continuum Codes (RUCCs, 2013) used to determine geographic categories are described in Appendix Table A2, and Census Divisions and corresponding states are described in Appendix Table A3.

a. Significant difference across Census Divisions (chi-squared test $p < .05$).

b. Significant difference between urban and rural counties within the indicated Census Divisions (chi-squared test $p < .05$).

Past-Year Receipt of Treatment or Counseling From a Private Therapist, Psychologist, Psychiatrist, Social Worker, or Counselor

Table 5 presents data on one specific source of care in an outpatient setting that is also included in the Table 4 composite measure: percentage of adolescents aged 12 to 17 who received treatment or counseling for emotional or behavioral problems not caused by drug or alcohol use in the past year from a private therapist, psychologist, psychiatrist, social worker, or counselor in an outpatient setting that is not part of a clinic or day treatment facility. Nationally, 15.7% of adolescents (4.0 million) received treatment or counseling from one of these providers in this setting. The percentage of adolescents receiving services from a private therapist, psychologist, psychiatrist, social worker, or counselor did not differ significantly by rurality or across Census Divisions overall nationally. Within Census Divisions, however, the percentage was significantly higher in urban counties in the West North Central, Mountain, and Pacific Census Divisions (Table 5). In the West South Central Census Division, a higher percentage of adolescents in rural counties received services from these providers compared to adolescents in urban counties (19.7% vs. 13.5%, $p < .05$).

Table 5. Percentage of Adolescents Aged 12 to 17 Who Received Specialty Mental Health Services From a Private Therapist, Psychologist, Psychiatrist, Social Worker, or Counselor in an Outpatient Setting in the Past Year by Census Division in Rural and Urban Counties, United States, 2021

	Overall (%)	Urban (%)	Rural (%)
National	15.7	15.9	14.5
New England	20.7	21.3	15.4
Middle Atlantic	16.5	16.1	b
East North Central	17.7	18.0	16.2
West North Central ^a	17.6	20.4	10.6
East South Central	13.7	13.5	14.1
South Atlantic	12.8	12.8	12.7
West South Central ^a	14.4	13.5	19.7
Mountain ^a	17.4	18.5	12.1
Pacific ^a	15.9	16.2	8.4

Data source: National Survey on Drug Use and Health (NSDUH), 2021. Rural-Urban Continuum Codes (RUCCs, 2013) used to determine geographic categories are described in Appendix Table A2, and Census Divisions and corresponding states are described in Appendix Table A3.

a. Significant difference between urban and rural counties within the indicated Census Divisions (chi-squared test $p < .05$).

b. Data suppressed due to limited sample size.

Past-Year Receipt of Mental Health Services in Non-Specialty Settings

Table 6 summarizes the percentage of adolescents who received mental health services in non-specialty settings in the past year. Mental health services in non-specialty settings include treatment or counseling for emotional or behavioral problems not caused by drug or alcohol use delivered in education, general medicine, juvenile justice, or child welfare settings. A total of 14.7% of adolescents received mental health services in non-specialty settings in the past year, with no significant differences by rurality (14.5% urban, 15.4% rural) or by Census Division. Within each Census Division, there were also no differences between rural and urban counties in the receipt of mental health services in non-specialty settings.

Table 6. Percentage of Adolescents Aged 12 to 17 Who Received Mental Health Services in a Non-Specialty Setting in the Past Year, by Census Division in Rural and Urban Counties, United States, 2021

	Overall (%)	Urban (%)	Rural (%)
National	14.7	14.5	15.4
New England	17.6	17.1	21.6
Middle Atlantic	13.5	13.4	15.6
East North Central	14.8	14.5	16.2
West North Central	18.6	20.6	13.8
East South Central	12.1	11.2	13.5
South Atlantic	14.2	13.9	15.9
West South Central	13.1	12.6	16.2
Mountain	14.9	14.7	15.6
Pacific	15.8	15.8	14.2

Data source: National Survey on Drug Use and Health (NSDUH), 2021. Rural-Urban Continuum Codes (RUCCs, 2013) used to determine geographic categories are described in Appendix Table A2, and Census Divisions and corresponding states are described in Appendix Table A3.

Past-Year Receipt of Mental Health Services in a General Medical Setting

A total of 3.8% of adolescents aged 12 to 17 received mental health care for emotional or behavioral problems from a pediatrician or family physician in a general medical setting in the past year. Slightly more rural adolescents received mental health care in this setting than urban adolescents (4.9% vs. 3.6%); however, this difference was not significant. Census Division-specific data were not available due to suppressed data. (All available data are presented in the text; therefore, no table is provided.)

Past-Year Receipt of Mental Health Services as Virtual (ie, Telehealth) Services

Table 7 shows the percentage of adolescents aged 12 to 17 years who received virtual mental health services, such as treatment or counseling for mental health, emotions, or behavior over the phone, by email, or through video calling. In 2021, 2.7 million adolescents reported having received mental health services virtually in the past year, equating to 10.6% of this population. The percentage of adolescents in rural counties who received mental health services virtually was significantly lower than urban adolescents (8.5% vs. 11.0%, $p < .05$). Within Census Divisions, the percentage receiving mental health services virtually was significantly lower for rural adolescents within the West North Central Census Division ($p < .05$) and Mountain Census Division ($p < .001$). For both of these Census Divisions, twice the percentage of urban adolescents received virtual services compared to rural adolescents.

Table 7. Percentage of Adolescents Aged 12 to 17 Who Received Mental Health Services as Virtual (ie, Telehealth) Services in the Past Year by Census Division in Rural and Urban Counties, United States, 2021

	Overall (%)	Urban (%)	Rural (%)
National ^a	10.6	11.0	8.5
New England	15.8	16.3	11.2
Middle Atlantic	11.3	11.3	^b
East North Central	11.0	11.4	9.3
West North Central ^a	11.4	13.3	6.7
East South Central	10.0	10.4	9.3
South Atlantic	9.6	9.5	9.9
West South Central	7.9	7.9	^b
Mountain ^a	11.0	12.4	5.0
Pacific	11.8	12.0	^b

Data source: National Survey on Drug Use and Health (NSDUH), 2021. Rural-Urban Continuum Codes (RUCCs, 2013) used to determine geographic categories are described in Appendix Table A2, and Census Divisions and corresponding states are described in Appendix Table A3.

a. Significant difference between urban and rural counties within the indicated Census Divisions (chi-squared test $p < .05$).

b. Data suppressed due to limited sample size.

LIMITATIONS

To ensure respondent privacy, data from the NSDUH are suppressed when an individual unweighted cell count is less than 11. This policy disproportionately affects rural places and severely limits what can be reported about the receipt of mental health services by adolescents in rural places from this national data source. Data on mental health services was suppressed in some rural places at the Census Division level. This inhibits the ability to provide granular data that would inform policymakers seeking to target specific states or regions of the country. Fortunately, this was only the case for a few Census Divisions. Addressing this data limitation will require larger survey sample sizes and oversampling of rural populations.

Additionally, the NSDUH data rely on self-reporting, and adolescents may not accurately recall or may choose not to report mental health services received in the past year. This differential reporting may vary geographically due to factors such as stigma, potentially affecting the validity of rural-urban comparisons. NSDUH's efforts to mitigate these concerns include the use of audio computer-assisted self-interviewing, which allows adolescents to respond privately without direct interviewer involvement.

DISCUSSION

In 2021, nearly one in five adolescents aged 12 to 17 years in the U.S. received specialty mental health services in the past year. Receipt of services was fairly uniform across the U.S.; however, we did observe some differences across rural categories and Census Divisions, with rural and urban counties showing alternating patterns of higher rates depending on service type and Census Division. For example, in the West North Central, Mountain, and Pacific Census Divisions, more adolescents in urban counties reported receiving specialty mental health services in inpatient or outpatient specialty settings than adolescents in rural counties. Conversely, within the West South Central Census Division, significantly more adolescents in rural counties reported receiving mental health services in inpatient or outpatient specialty settings compared to adolescents in urban counties (23.8% vs. 15.9%). Another example relates to specialty mental health services because of a contemplated or attempted suicide. Among adolescents who received health services in inpatient or outpatient specialty settings, a higher percentage of those in rural East North Central, South Atlantic, West South Central, and Mountain counties received services due to a contemplated or attempted suicide compared to urban counties in the same Census Divisions. In contrast, in the West North Central Census Division, a higher percentage of adolescents in urban counties received services due to a contemplated or attempted suicide than those from rural counties. We observed changing patterns of care across Census Divisions and rurality for outpatient mental health services and treatment from a therapist or counselor as well. Taken together, these findings illustrate that national rural-urban comparisons do not fully capture the range of differences observed at the regional level, as the direction and magnitude of rural-urban differences varied across Census Divisions.

In this study, we found that about one in ten U.S. adolescents aged 12 to 17 years in 2021 received mental health services as virtual (ie, telehealth) services, treatment, or counseling for mental health, emotions, or behavior over the phone, by email, or through video calling. Our estimate is approximately twice as high as a recent study, which found that 4.9% of children and adolescents aged 6 to 17 years in the U.S. received mental health services through video or phone modalities in 2021.¹ The lower estimate in the cited research may be attributed to the inclusion of younger children (who may use virtual services less frequently) and a narrower definition of virtual care that excludes email-based services. Lower rates of virtual mental health service use among rural adolescents may reflect broader rural-urban differences in telehealth utilization. Evidence

has shown lower telehealth use in rural areas following the COVID-19 pandemic, though research to understand the factors contributing to these differences is ongoing.⁶

When considering differences in received mental health services across rurality and Census Divisions, it is important to note that this analysis did not capture adolescents' needs for mental health services, which can also vary geographically.² Additionally, in this analysis, we examined *realized* access, or the mental health services reported to have been received, and did not include adolescents who needed but did not access care or did not report accessing care. Factors that can impact realized access to mental health services for adolescents (eg, provider shortages and scarcity of public transportation) often vary by location, including across levels of rurality.

CONCLUSION AND POLICY CONSIDERATIONS

The receipt of mental health services (including virtual services) among adolescents aged 12 to 17 years varies widely across geographic regions of the U.S. Understanding geographic variation in the receipt of mental health services can help policymakers understand how to effectively allocate resources to improve access. By examining variation in services across Census Divisions, targeted efforts can be made to identify regional treatment needs and develop interventions that consider local context.

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AUTHORS

Janessa M. Graves, PhD, MPH, WWAMI Rural Health Research Center, University of Washington
Gina A. Keppel, MPH, WWAMI Rural Health Research Center, University of Washington
Lisa A. Garberson, PhD, WWAMI Rural Health Research Center, University of Washington
C. Holly A. Andrilla, MS, WWAMI Rural Health Research Center, University of Washington

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University of Washington • School of Medicine
Box 354982 • Seattle WA 98195-4982
phone: (206) 685-0402 • fax: (206) 616-4768
<https://familymedicine.uw.edu/rhrc/>

APPENDIX

Detailed Methodology

We used 2021 data from the National Survey on Drug Use and Health (NSDUH), which is administered annually by the Substance Abuse and Mental Health Services Administration (SAMHSA). The 2021 NSDUH surveyed 13,270 adolescents aged 12 to 17 years to generate prevalence estimates for 25.5 million U.S. adolescents.²

Details about the NSDUH survey questions, measures used, and their definitions are outlined in Table A1. Reported behavioral health treatment described in this report pertains to mental health or behavioral health treatment unrelated to alcohol or drugs.

Table A1. 2021 National Survey on Drug Use and Health (NSDUH)^{3,4} Measures

Measure	Description
Mental health service settings	<p>For adolescents aged 12 to 17, mental health service settings refer to locations or types of providers where adolescents received treatment or counseling for any emotional or behavioral problem (unrelated to alcohol or drugs) in the past 12 months.</p> <p><i>Settings for specialty mental health services</i> for adolescents may be received in outpatient, inpatient, or residential mental health settings. The outpatient settings include (1) private therapists, psychologists, psychiatrists, social workers, or counselors; (2) mental health clinics or centers; (3) partial day hospitals or day treatment programs; and (4) in-home therapists, counselors, or family preservation workers. The inpatient settings include (1) overnight hospitalization and (2) residential treatment centers. Adolescents were classified as having received mental health services at a specialty setting if they reported receiving treatment or counseling in any of these settings for emotional or behavioral problems not caused by drug or alcohol use. Adolescents could report receiving services in more than one specialty setting.</p> <p><i>Non-specialty mental health settings</i> for adolescents include education, general medical, juvenile justice, and child welfare settings. The education setting includes mental health services from (1) school social workers, school psychologists, or school counselors; and (2) special schools or school programs (within a regular school) for students with emotional or behavioral problems. The general medical setting includes mental health services from pediatricians or other family doctors. The juvenile justice setting includes mental health services in a juvenile detention center, prison, or jail provided by psychiatrists, psychologists, social workers, or counselors who work for the court system. The child welfare setting includes foster care or therapeutic foster care. Adolescents could report receiving services in more than one non-specialty setting, and adolescents could report receiving both specialty and non-specialty mental health services.</p> <p><i>Virtual (telehealth)</i> mental health service settings for adolescents include services delivered over the phone, by email, or through video calling.</p> <p>Adolescents had different opportunities to report that they received mental health services, depending on the setting. Specifically, only those adolescents who previously reported that they attended any type of school in the past 12 months were asked whether they received mental health services in education settings; school dropouts and adolescents who reported that they were homeschooled were not asked about mental health services in education settings. Also, only those adolescents who reported staying in a juvenile detention center in the past 12 months were asked whether they received services in juvenile justice settings.</p>
Receiving mental health services for suicidal thoughts or behavior	<p>Adolescents aged 12 to 17 who received treatment or counseling for emotional or behavioral problems (unrelated to alcohol or drugs) in different mental health service settings in the past year were asked to report their reasons for receiving the services in these settings. For each relevant setting, respondents were asked up to two questions to report why they received services in that setting. The question about receipt of mental health services due to suicidal thoughts or behavior consists of individuals who reported the reason "thought about killing self or tried to kill self."</p>

We categorized respondents into one of five (two urban and three rural) geographic categories based on the 2013 Rural-Urban Continuum Code (RUCC) county typology.⁵ The RUCCs distinguish metropolitan counties by the population size of their metro area and nonmetropolitan counties by the degree of urbanization and adjacency to a metro area (Table A2). We classified urban counties as those with RUCC 1-3: large metro (RUCC 1-2) and small metro (RUCC 3). Rural counties were those with RUCC codes 4 and higher (urbanized rural, RUCC 4-5; less urbanized rural, RUCC 6-7; and completely rural, RUCC 8-9). The study population included the U.S. civilian, noninstitutionalized population aged 12 to 17 years old in 2021.

Table A2. Rural-Urban Classification and Sub-Grouping Based on 2013 Rural-Urban Continuum Code (RUCC) County Typology

Rural vs. Urban	Geographic Category	RUCC	Description
Urban	Large metro	1	Counties in metro areas of 1 million population or more
		2	Counties in metro areas of 250,000 to less than 1 million population
	Small metro	3	Counties in metro areas of fewer than 250,000 population
Rural	Urbanized rural	4	Population of 20,000 or more, adjacent to a metro area
		5	Population of 20,000 or more, not adjacent to a metro area
	Less urbanized rural	6	Population of 2,500 to 19,999, adjacent to a metro area
		7	Population of 2,500 to 19,999, not adjacent to a metro area
	Completely rural	8	Less than 2,500 population, adjacent to a metro area
		9	Less than 2,500 urban population, not adjacent to a metro area

We calculated weighted frequencies for urban (metro), and rural (nonmetro) counties overall, as well as for the five geographic categories described above, and for Census Divisions (Table A3). All analyses followed SAMHSA's policy for data suppression, wherein the underlying (unweighted) sample size for any table cell must be greater than 10; table cells that did not meet this requirement were suppressed and are indicated as such in this report. We conducted chi-squared tests at the Northwest Research Data Center using SAS version 9.4 statistical software. SAMHSA reviewed and approved all output tables. The University of Washington Human Subjects Division approved this research.

Table A3. U.S. Census Divisions and Corresponding States

Census Division	State
New England	CT, ME, MA, NH, RI, VT
Middle Atlantic	NJ, NY, PA
East North Central	IL, IN, MI, OH, WI
West North Central	IA, KS, MN, MO, NE, ND, SD
East South Central	AL, KY, MS, TN
South Atlantic	DE, DC, FL, GA, MD, NC, SC, VA, WV
West South Central	AR, LA, OK, TX
Mountain	AZ, CO, ID, MT, NV, NM, UT, WY
Pacific	AK, CA, HI, OR, WA