



# HHS Public Access

Author manuscript

*Psychiatr Serv.* Author manuscript; available in PMC 2018 May 14.

Published in final edited form as:

*Psychiatr Serv.* 2016 July 01; 67(7): 787–789. doi:10.1176/appi.ps.201400196.

## Mental Health Service Use across Adolescence: Findings from the National Survey on Drug Use and Health

**Heather Ringeisen,**

RTI International - Survey Research Division, hringeisen@rti.org, ccasanueva@rti.org

**Shari Miller,**

RTI International, Research Triangle Park, North Carolina

**Breda Munoz,**

RTI International, Research Triangle Park, North Carolina

**Harley Rohloff,**

RTI International, Research Triangle Park, North Carolina

**Sarra L. Hedden, and**

SAMHSA

**Lisa Colpe**

NIMH/NIH - DSIR, Bethesda, Maryland

### Abstract

**Objective**—This study examines mental health service use among adolescents aged 12–17 by service type.

**Methods**—Data are from approximately 113,000 adolescents who participated in the National Surveys on Drug Use and Health, an annual nationally representative survey of the civilian, non-institutionalized U.S. population. Polynomial contrasts tested for linear and quadratic changes in the use of past-year mental health services for school-based, outpatient therapist or clinic, and overnight hospital stay across age.

**Results**—Although mental health service use increases from age 12 to age 14 across all service types, it then decreases or stabilizes from 15 to 17. School-based services are the most commonly used service and evidence the steepest decline in use from 12 to 17.

**Conclusions**—Despite adolescence being marked by an increasing prevalence of mental disorders, mental health service use declines or levels off for many service types at 14–15 years of age.

### Keywords

adolescence; mental health services; service use

---

Mental health service use declines for those aged 18 or older. Nationally representative administrative data show annual rates of inpatient, outpatient, and residential service use were 34 per 1,000 for 16–17 year olds, whereas rates for 18–19 year olds were nearly half: 18 per 1,000 (1). In a longitudinal study of children diagnosed with bipolar disorder, Hower

and colleagues noted a gradual decline in service use by those aged 12–22 that was unrelated to illness severity or functional impairment (2). The decline in service use may differ based upon service type. When controlling for young adult clinical profiles and demographic characteristics, Pottick et al. found a marked decline in receipt of individual office-based therapy for 18–21 year olds when compared to 16–17 year olds (3). However, no differences were found between these age groups in receipt of psychotropic medications (3). Observed decreases in service use coincide with an increase in the prevalence of mental disorders among adolescents aged 13–18 (4). Low rates of service use continue for young adults aged 18–26 (5, 6). Meanwhile, service use increases from childhood to adolescence. Young adolescents (12–15 year olds) are more likely to use mental health services than children aged 8–11, even when controlling for mental health needs (7). During adolescence, the school setting is a critical point of access for mental health services. Adolescents are more likely to receive mental health services in school than a specialty mental health setting (8); however, we have little information about how this use may change across adolescence. Typically, studies combine adolescents into one age group, masking potential age differences in mental health service use across adolescence. The objective of this study was to examine mental health service use across 12–17 years of age, by service type (school-based, outpatient therapist or clinic, overnight hospital stay). We hypothesized that, for all service types, use would decrease linearly from 12 to 17.

## Methods

NSDUH is an annual survey designed to estimate annual prevalence and correlates of substance use and mental health issues. It is nationally representative of the civilian, noninstitutionalized U.S. population aged 12 years or older. The design comprises an independent multistage area probability sample for each of the 50 states and the District of Columbia. Approximately 68,000 interviews are completed annually; interviews are administered in households using audio computer-assisted self-interviewing. Respondents provide consent for participation after hearing a complete study description and are provided \$30 upon completion. Detailed descriptions of the 2008–2012 NSDUH methods are available on the SAMHSA Web site (9). Procedures were approved by the contracting organization's Institutional Review Board (9). The current study uses combined 2008–2012 NSDUH data from approximately 113,000 adolescents aged 12 to 17.

Adolescents were asked if in the past 12 months they had received treatment or counseling services from a variety of providers or locations because of “problems with your behavior or emotions...not caused by alcohol or drugs.” Providers and locations reported in this study include those most commonly endorsed by adolescent respondents. Selected service types examined in this study included outpatient therapist or clinic: private therapist, psychologist, psychiatrist, social worker, or counselor or an outpatient mental health clinic; school-based services: school social worker, school psychologist, or school counselor or special school or program within a regular school for students with emotional or behavioral problems; or overnight hospital stay: overnight stay or longer in any type of hospital. Service types reported by well under 1% of adolescent respondents and so not reported in this paper included in-home counseling, therapeutic foster care, mental health treatment received in juvenile detention and services received from a residential treatment center.

Using polynomial contrasts, linear and quadratic patterns across ages 12–17 for each service type were tested. Rates of service use were averaged across the 2008–2012 NSDUH data at each age (in years). Before averaging age-level rates of service use across 2008–2012 NSDUH survey data, we investigated potential differences between age cohorts in service rates across survey years. Results indicated no consistent age-level access rate patterns across survey years. In order to control for Type I error inflation due to multiple testing, a Bonferroni correction was applied (10). Analyses used PROC Descript in SUDAAN®, version 11.0.0, to account for NSDUH's complex sample design. Sampling weights were used in order to yield population estimates for the 12–17 age group; because we combined 5 years of survey data, sampling weights were divided by the total number of survey years of data.

## Results

Results indicated that adolescents were most likely to receive school-based services (12.3%  $\pm$ 0.2), followed by outpatient therapist or clinic services (10.1%  $\pm$ 0.1). Adolescents were least likely to have reported an overnight hospital stay (1.8%  $\pm$ 0.1).

As **Figure 1** demonstrates, the use of school-based ( $t=-4.7$ ,  $df=900$ ,  $p<.01$ ) and outpatient therapist or clinic ( $t=-5.1$ ,  $df=900$ ,  $p<.01$ ) services across ages 12–17 was characterized by a convex quadratic pattern (i.e., inverted U). By comparison, overnight hospital stay ( $t=2.1$ ,  $df=900$ ,  $p<.01$ ) services showed a monotone linear pattern (increasing from 12 to 14 and almost flat from 15 to 17). For all service types, use increased from 12 to 14 and then either declined (therapist/mental health clinic and school-based) or remained level from 15 to 17 (overnight hospital stay). The decline was particularly apparent for school-based services, where service use decreased from 14.5%  $\pm$ 0.4 at 13 to 9.6%  $\pm$ 0.3 at 17.

## Discussion

Previous research demonstrates a decline in mental health service use in young adulthood (1) and an increase from childhood to adolescence (7). This study extended that work by examining age related patterns of service use across adolescence. Results depict increasing use from 12 to 14 years and then declining or leveling mental health service use beginning in mid-adolescence (14–15 years). In particular, school-based service use reduced markedly across ages 14–17. A relatively smaller, but still significant, similar pattern was also seen for services from outpatient therapists and clinics.

Schools have long been noted to be the leading and often de facto provider of children's mental health services (4, 8, 11). Schools play a critical role in providing and coordinating children's mental health care. Between ages 14 and 15, most adolescents transition from middle to high school. Could a decline in mental health service in late adolescence use be the result of insufficient resources for mental health treatment at the high school level or a function of state budget cuts associated with the economic downturn? These questions cannot be answered by the current study but indicate worthwhile avenues for future research designed to understand this decline in school-based mental health service use and its root cause.

One limitation of our study is that service use was not considered in light of mental health need. NSDUH does not include a comprehensive measure of adolescent mental health status. However, the prevalence of mental disorders from several studies gradually increases throughout adolescence (12). Our findings suggest that rates of service use decline as adolescent mental health needs increase. Future research is needed to better understand this decline, factors related to decreased use of mental health services, and strategies to increase service access throughout the adolescent years. A second limitation is that service use was limited to adolescent self-report; adolescents, particularly younger adolescents, may not be accurate reporters. Reporting accuracy differences by age could have biased study results. Fortunately, prior research does show relatively high agreement between adolescent and parent reports of the receipt of any mental health treatment (4, 8). Finally, this study only focused on four types of treatment and did not examine trends in some less common, but still important, service sectors (e.g., residential treatment, child welfare or juvenile detention). Non-household-based samples or studies of vulnerable populations would be particularly well-suited for examining patterns in service use by age in these less commonly used sectors.

## Conclusion

Most mental disorders begin in childhood or adolescence (13). These conditions increase the risk of functional impairments in young adulthood, such as unemployment and criminal activity (14). Effective treatments are available to prevent or minimize impairments associated with child and adolescent mental disorders (15). The current study indicates that receipt of mental health services from a variety of sources begins to decline or remains flat in mid-adolescence. Research is needed to better understand what leads to this decline, which coincides with increasing mental health needs, and the availability of effective treatments.

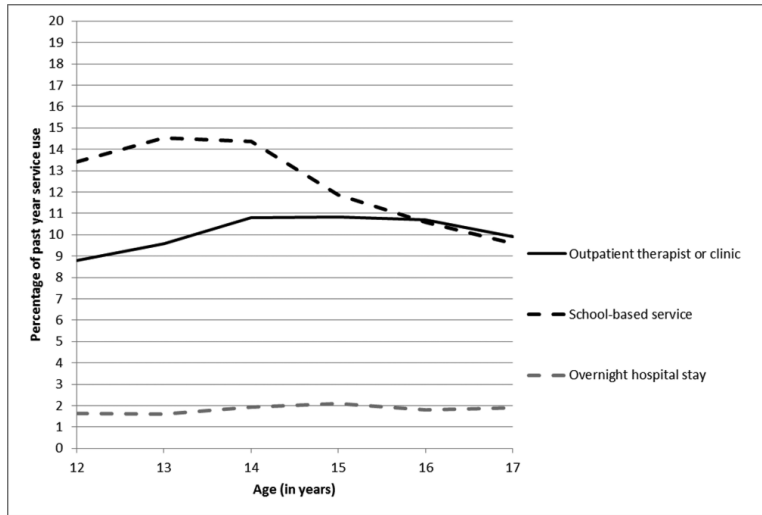
## Acknowledgments

The National Survey on Drug Use and Health (NSDUH) is funded by the Substance Abuse and Mental Health Services Administration (SAMHSA), Center for Behavioral Health Statistics and Quality. This study was funded under Contract No. 284-2010-0003C, Project No. 0212800.002, which was supported by funding from the National Institute of Mental Health (NIMH). We acknowledge the substantive reviews provided by Joe Gfroerer, Valerie Hoffman, and Jeremy Aldworth as well as the editorial assistance of Anne Gering.

## References

1. Pottick KJ, Bilder S, Vander Stoep A, et al. US patterns of mental health service utilization for transition-age youth and young adults. *Journal of Behavioral Health Services Research*. 2008; 35(4): 373–389. [PubMed: 18026842]
2. Hower H, Case BG, Hoepfner B, et al. Use of mental health services in transition age youth with bipolar disorder. *Journal of Psychiatric Practice*. 2013; 19(6):464–476. [PubMed: 24241500]
3. Pottick KJ, Warner LA, Vander Stoep A, et al. Clinical characteristics and outpatient mental health service use of transition-age youth in the USA. *J Behav Health Serv Res*. 2014; 41(2):230–243. [PubMed: 24198086]
4. Merikangas KR, He JP, Burstein M, et al. Service utilization for lifetime mental disorders in U.S. adolescents: results of the National Comorbidity Survey-Adolescent Supplement (NCS-A). *Journal of the American Academy of Child and Adolescent Psychiatry*. 2011; 50(1):32–45. [PubMed: 21156268]

5. Kessler RC, Demler O, Frank RG, et al. Prevalence and treatment of mental disorders, 1990 to 2003. *New England Journal of Medicine*. 2005; 352(24):2515–2523. [PubMed: 15958807]
6. Center for Behavioral Health Statistics and Quality. Results from the 2012 National Survey on Drug Use and Health: mental health findings. Substance Abuse and Mental Health Services Administration; Rockville, MD: 2013. (HHS Publication No. SMA 13-4805, NSDUH Series H-47) Available at [http://www.samhsa.gov/data/NSDUH/2k12MH\\_FindingsandDetTables/2K12MHF/NSDUHmhfr\\_2012.htm](http://www.samhsa.gov/data/NSDUH/2k12MH_FindingsandDetTables/2K12MHF/NSDUHmhfr_2012.htm). [February 18, 2014]
7. Merikangas KR, He JP, Brody D, et al. Prevalence and treatment of mental disorders among US children in the 2001-2004 NHANES. *Pediatrics*. 2010; 125(1):75–81. [PubMed: 20008426]
8. Costello EJ, He JP, Sampson NA, et al. Services for adolescents with psychiatric disorders: 12-month data from the National Comorbidity Survey-Adolescent. *Psychiatric Services*. 2013; 65(3): 359–366.
9. Center for Behavioral Health Statistics and Quality. Results from the 2012 National Survey on Drug Use and Health: summary of national findings. Substance Abuse and Mental Health Services Administration; Rockville, MD: 2013. (HHS Publication No. SMA 13-4795, NSDUH Series H-46) Available at <http://www.samhsa.gov/data/NSDUH/2012SummNatFindDetTables/Index.aspx>. [February 18, 2014]
10. Bland JM, Altman DG. Multiple significance tests: the Bonferroni method. *BMJ*. 1995; 310(6973): 170. [PubMed: 7833759]
11. Burns BJ, Costello EJ, Angold A, et al. Children's mental health service use across service sectors. *Health Affairs (Millwood)*. 1995; 14(3):147–159.
12. Center for Behavioral Health Statistics and Quality. The NSDUH Report: major depressive episode and treatment among adolescents: 2009. Substance Abuse and Mental Health Services; Rockville, MD: 2011. Available at <http://www.samhsa.gov/data/2k11/NSDUH009/sr009-adolescent-depression.htm>. [February 18, 2014]
13. Kim-Cohen J, Caspi A, Moffitt TE, et al. Prior juvenile diagnoses in adults with mental disorder: developmental follow-back of a prospective-longitudinal cohort. *Archives of General Psychiatry*. 2003; 60(7):709–717. [PubMed: 12860775]
14. Armstrong KH, Dedrick RF, Greenbaum PE. Factors associated with community adjustment of young adults with serious emotional disturbance: a longitudinal analysis. *Journal of Emotional and Behavioral Disorders*. 2003; 11(2):66–77.
15. Silverman WK, Hinshaw SP. The second special issue on evidence-based psychosocial treatments for children and adolescents: a 10-year update. *Journal of Clinical Child and Adolescent Psychology*. 2008; 37(1):1–7.



**Figure 1.** Past-year mental health service use, by service type: percentages, National Surveys of Drug Use and Health, 2008–2012