

AKTOS 2013
ANNUAL OUTCOMES
BRIEF REPORT

The National Survey on Drug Use and Health (NSDUH) estimates 6.9% of adolescents abused or were dependent on alcohol and/or drugs in 2011¹. Although the rate of substance abuse or dependence among adolescents (6.9%) is low compared to young adults (18.6%), the younger an individual is at onset of substance use the greater the likelihood that a substance use disorder will develop². Thus, treatment of adolescents' substance use may decrease substance use problems in adulthood.

The Adolescent Kentucky Treatment Outcome Study (AKTOS) describes substance abuse and treatment outcomes for youth (ages 12-17) who receive publicly funded substance abuse treatment in Community Mental Health Centers in Kentucky. A full report is published biannually to allow for analysis of a larger sample of adolescents across two fiscal years; for example in the report published in 2012 the sample size was 149 adolescents³. This brief report highlights the major findings for adolescents who completed an intake survey in one fiscal year (between July 1, 2010 and June 30, 2011) and then a follow-up survey approximately 12 months later (n = 49). Clinicians conduct intake surveys using a web-based program and UK CDAR project interviewers conduct follow-up surveys by telephone. Results show that adolescent clients benefit from treatment services in several key ways including decreased substance use, improved mental health, and better educational outcomes.

BACKGROUND

Overall, 55 clients agreed to, met eligibility criteria, and were selected for the follow-up, and of those, 49 completed a follow-up survey.

¹ SAMHSA. (2012). Results from the 2011 National Survey on Drug Use and Health: Summary of National Findings, NSDUH Series H-44, HHS Publication No. (SMA) 12-4713. Rockville, MD: Substance Abuse and Mental Health Services Administration.

² Dennis, M. (2002). Treatment research on adults drug and alcohol abuse: despite progress, many challenges remain. (Invited commentary. Washington, DC: Academy for Health Services Research Policy.

³ Cole, J., Logan, T., Stevenson, E., Scrivner, A., & Parrish, D. (2012). Adolescent Kentucky Treatment Outcome Study—AKTOS, 2012 Follow-Up Report. Lexington, KY: University of Kentucky, Center on Drug & Alcohol Research.

This means 89% of those selected into the follow-up sample actually completed a follow-up interview. The following are characteristics at intake of the clients who completed a follow-up interview:

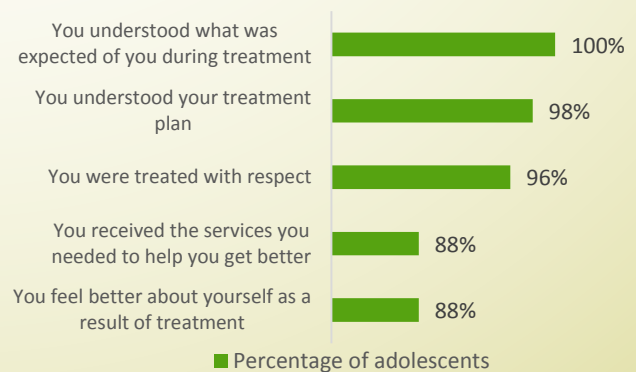
89%
Follow-up rate

- The majority of clients were male (63%) and White (86%) with an average age of 16 (ranging from 12-17).
- The majority of clients lived with a parent (61%), 22% lived with other family, foster parents, or friends, 8% lived in an institutional setting, and 2% lived independently.
- At intake survey most were attending public or private school (65%) and 8% were not in school; 21% were in an alternative, homebound or day treatment school-setting, and 6% were taking GED classes.

SATISFACTION WITH TREATMENT

At follow-up, adolescents were asked to rate their level of satisfaction with the treatment program on a scale from 1 (worst treatment imaginable) to 10 (best treatment). The mean rating was 7, with nearly half of adolescents (47%) giving a rating between 8 and 10.

In the follow-up interview, the vast majority of adolescents agreed or strongly agreed with favorable statements about their treatment experience. In particular, clients overwhelmingly reported they understood the expectations of the treatment program, were treated with respect, received the services they needed to get better and felt better about themselves as a result of treatment.



CHANGES FROM TREATMENT INTAKE TO FOLLOW-UP

AKTOS clients had positive changes in substance use, mental health, and academic performance from intake to follow-up.

SUBSTANCE USE DECREASED

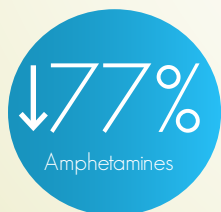
Adolescents' use of illicit drugs in the past 12 months overall and for specific types of substances (e.g., marijuana, opioids, and amphetamines) decreased significantly from intake to follow-up.

Overall, the percentage of adolescents who reported any use of illicit drugs decreased by 22% from 91.8% at intake to 71.4% at follow-up.



The number of adolescents who used marijuana decreased by 30%, from 90% at intake to 63% at follow-up.

Misuse of opioids (prescription opiates, buprenorphine, methadone) decreased by 50%. At intake, 45% of adolescent clients reported opioid use and at follow-up, 22% reported opioid use.



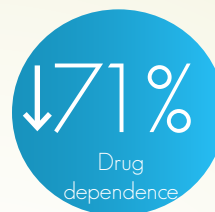
The number of adolescents who reported amphetamine use significantly decreased by 77%. At intake, 27% of adolescent clients reported amphetamine use and at follow-up 6% reported amphetamine use.

Past-12-month alcohol use decreased but not significantly. At intake, 75% of adolescent clients reported alcohol use and at follow-up 65% reported alcohol use.

Even though the number of adolescents who used alcohol in the past 12 months did not change from intake to follow-up, the number of adolescents who had an Addiction Severity Index (ASI)

composite score indicating alcohol dependence in the past 30 days decreased significantly.

Almost half of adolescents who used alcohol (48%) had an Alcohol CS indicating alcohol dependence at intake. The number decreased significantly by 75% to 12% at follow-up⁴.

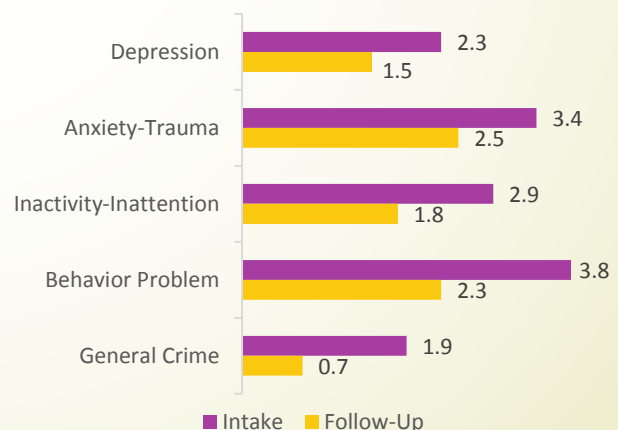


A little more than one half of adolescents (55%) who used illicit drugs had a Drug CS indicating drug dependence at intake compared to only 16% at follow-up--a significant decrease of 71%.

One area of concern, however, is the high percentage of adolescents who smoked tobacco in the past 12 months at intake (82%) and at follow-up (90%).

DECREASED MENTAL HEALTH SYMPTOMS

Adolescents' mental health improved from intake to follow-up. Scores on the depression, anxiety-trauma, activity-inattention, behavior problem, general crime scales of the GAIN-Quick decreased significantly from intake to follow-up⁵.



⁴ Adolescents who were in a controlled environment all 30 days before intake or follow-up and individuals who did not use alcohol or drugs at both intake and follow-up were excluded from this analysis. Also, ASI CS are based on alcohol/drug use in the past 30 days and severity of problems associated with use and desire for treatment.

⁵ Minimum value for all the subscales was 0. Maximum values are the following: Depression (5), Anxiety-Trauma (7), Activity-Inattention (6), Behavior Problems (6), General Crime (4).

IMPROVED EDUCATIONAL OUTCOMES

There were positive changes in academic performance for adolescent clients following treatment.

For those who were in school, mean grade point average (GPA) increased significantly by 18% from intake to follow-up. At intake, the mean GPA was 2.2 (a C) and at follow-up, the mean GPA had increased to 2.6 (midpoint between a C and a B).

↑ 18%
Significant
increase in mean
GPA

↓ 72%
Significant
decrease in the
number of days
adolescents were
absent from school
for disciplinary
reasons

The number of days adolescents reported being absent from school for disciplinary reasons decreased significantly by 72% from 6.0 days at intake to 1.7 days at follow-up.

STABLE CRIMINAL JUSTICE SYSTEM INVOLVEMENT

Criminal involvement, in terms of arrests and nights spent in jail or prison, remained unchanged after treatment.

Overall, over half (59%) of the adolescent clients reported an arrest in the 12 months before treatment intake, and at follow-up, 62% reported an arrest—a non-significant change.

The number of adolescents who reported being incarcerated in the past 12 months also remained stable from intake (47%) to follow-up (49%).

Significantly more boys reported being under supervision by the criminal justice system (i.e., probation or drug court) at intake compared to girls (65% vs. 17%). Significantly fewer boys self-reported being under supervision by the criminal justice system at follow-up (29%) compared to intake (65%). There was no change for girls.

↓ 55%
Supervision

CONCLUSION

The 2013 AKTOS brief report presents findings based on 49 adolescents who completed an intake survey between July 1, 2010 and June 30, 2011, and then a follow-up survey approximately 12 months later. The outcomes data indicate successful treatment experiences for the majority of youth one year after intake, with significant reductions in illegal drug use as well as substance abuse or dependence, decreases in mental health problems, improvements in grades, and decreases in school absences for disciplinary reasons. Furthermore, most adolescents rated their treatment experiences positively.

Consistent with many studies on adolescent substance use, marijuana was the most commonly used substance at treatment intake. In fact, more adolescents reported using marijuana than tobacco or alcohol; 9 in 10 adolescents reporting using marijuana in the 12 months before treatment intake compared to almost 8 in 10 for alcohol and/or tobacco use. Early and continued use of marijuana can affect memory, attention, and learning as well as impair emotional development and increase the risk of depression, anxiety, and psychosis^{6,7}. Even though the number of adolescents who used marijuana decreased by 30% at follow-up, over half of adolescents reported using marijuana in the 12 months before follow-up. Moderate or even low marijuana abstinence rates are often found among adolescents post-treatment⁸. Given the negative effects of marijuana use in adolescence, further reductions in marijuana use among adolescents are likely to be the objective of treatment providers; however, youth may not

⁶ Meier, M., Caspi, A., Ambler, A., Harrington, H. Houts, R., Keefe, R. et al. (2012). Persistent cannabis users show neuropsychological decline from childhood to midlife. *Proceedings of the National Academy of Sciences*. DOI: 10.1073/pnas.1206820109.

⁷ Office of Applied Studies. (2003). Results from the 2002 National Survey on Drug Use and Health: national findings (DHHS Publication No. SMA 03-3836, NSDUH Series H-22). Rockville, MD: Substance Abuse and Mental Health Services Administration.

⁸ Dennis, M., Godley, S., Diamond, G., Tims, G., Babor, T., Donaldson, J., & Funk, R. (2004). The cannabis youth treatment (CYT) study: Main findings from two randomized trial. *Journal of Substance Abuse Treatment*, 27, 197-213.

have the goal of abstinence. What is encouraging is that the number of adolescents who used drugs and met criteria for drug dependence decreased by 71%.

Even though in this small sample the number of adolescents who reported any use of alcohol in the past 12 months did not change from intake to follow-up, the number of individuals who used alcohol at either intake or follow-up and met study criteria for alcohol dependence decreased significantly by 75%.



Substance use disorders in youth are best understood within the context of several interrelated problems such as trauma exposure, comorbid mental disorders, and justice system involvement⁹. Multiple co-occurring mental health disorders are the norm for adolescents in substance abuse treatment¹⁰. This is the first AKTOS report that has presented mental health data collected with the GAIN Emotional Health scales. Decreases in mental health symptoms post-treatment are a positive finding for AKTOS clients.

Because the findings in this brief report are based on a smaller sample (n = 49) than samples used in bi-annual AKTOS reports, statistical issues may explain the lack of change found in arrests. Although in past years' reports incarceration in the past 12 months did not change significantly

⁹ Jessor, R., & Jessor, S. L. (1997). *Problem behavior and psychosocial development: A longitudinal study of youth*. New York: Academic Press.

¹⁰ Turner, W. C., Muck, R. D., Much, R. J., Stephens, R. L., & Sukumar, B. (2004). Co-occurring disorders in the adolescent mental health and substance abuse treatment systems. *Journal of Psychoactive Drugs*, 36(4), 455-462.

from intake to follow-up, the number of adolescents who reported arrests in the past 12 months decreased significantly in those years^{2,11}. Other studies have found stable or increased incarceration among youth in substance abuse treatment¹². The 2013 Blueprint for Kentucky's Children recommends reducing detention of youth and encouraging use of community-based interventions.

The lack of change in tobacco use is consistent with findings from past years' reports and a cause of continued concern. Treatment for alcohol and drug use offers a unique opportunity to intervene with adolescents who are using tobacco. Contrary to the commonly accepted belief that tobacco cessation efforts in conjunction with alcohol and drug abstinence efforts will jeopardize abstinence from alcohol and drugs, emerging research indicates that voluntary tobacco cessation may be important for attaining and maintaining alcohol and drug abstinence¹³. Therefore, integrating voluntary tobacco cessation interventions into treatment programs is critical to the long-term health of adolescents.

Findings from the 2013 Adolescent Kentucky Treatment Outcome Study indicate treatment is beneficial for many youth. Positive primary outcomes include decreased illegal drug use, alcohol dependence, and drug dependence. Also, decreased mental health problems, improved academic performance, and decreased school absences for disciplinary reasons post-treatment are positive secondary outcomes of substance abuse treatment.

Suggested citation: Cole, J., Logan, T., Scrivner, A., & Stevenson, E. (2013). AKTOS 2013 Outcomes Report: Findings at a Glance. Lexington, KY: University of Kentucky, Center on Drug and Alcohol Research.

¹¹ Cole, J., Stevenson, E., Mateyoke-Scrivner, A., Newell, J., & Walker, R. (2010). *Adolescent KTOS Follow-up Report 2010*. Lexington, KY: University of Kentucky, Center on Drug & Alcohol Research.

¹² Schildhaus, S., Gerstein, D., Brittingham, A., Cerbone, F., & Dugoni, B. (2000). Services Research Outcomes Study: Overview of drug treatment population and outcomes. *Substance Use & Misuse*, 35 (12-14), 1849-1877.

¹³ Campbell, C., Chi, F., Sterling, S., Kohn, C., & Weisner, C. (2009). Self-initiated tobacco cessation and substance use outcomes among adolescents entering substance abuse treatment in a managed care organization. *Addictive Behaviors*, 34, 171-179.