

HEARTSMAP CME – PROFESSIONALS AND RESOURCES

HEARTSMAP Domain	Professional resources
Number of articles	4
General Theme	Clinician Bottom Line
<p>Marijuana use and mental health service utilization</p> <ul style="list-style-type: none"> Marijuana use in high school is associated with mental health service utilization later in adulthood. Early substance intervention program, however, can mitigate the service utilization by directly reducing weekly marijuana use during high school. (Level of Evidence: II.1) 	<ul style="list-style-type: none"> Increased marijuana use in high school can be a significant predictor of high mental health service utilization in the adulthood. Therefore, an early intervention aimed at reducing the substance use can be effective in reducing future resource utilization. See article #1
<p>Delinquent Youth and mental health service utilization</p> <ul style="list-style-type: none"> Delinquent youth involved in substance use required high level of mental health service utilization that related to emotional, mental health, and interpersonal issues. (Level of Evidence: II.2) Girls in high-risk groups were the highest utilizer of the mental health service. (Level of Evidence: II.2) The substance program was effective in reducing substance use problem in both the high and low risk groups of delinquent youth (Level of Evidence: II.2) 	<ul style="list-style-type: none"> Delinquent youth involved in substance use will require a multitude of mental health services. A long term intervention, however, can be effective in reducing the substance use problem. See article #2
<p>Substance use and mental health service utilization</p> <ul style="list-style-type: none"> Youth who suffer substance abuse can present with other comorbid problems. (Level of Evidence: II.2) 	<ul style="list-style-type: none"> Youth with substance abuse problems belong to a high-risk group that requires early and comprehensive intervention. It is crucial for clinicians to identify these youth early on and connect them to an intervention program. See article #3
<p>Clinical staging and mental health service utilization</p> <ul style="list-style-type: none"> Youth with more severe symptoms utilized more treatments than youth who are mildly symptomatic. (Level of Evidence: II.1) After ten treatments, both mild and severe groups improved at the same rate. However, the milder group exited the treatment with better functioning, while the severe group exited the service without fully recovering functionally and psychologically, despite higher service utilization. (Level of Evidence: II.1) 	<ul style="list-style-type: none"> Patients with more severe symptoms require higher service utilization on a longer-term basis to achieve similar functioning as their mildly symptomatic counterparts. Additionally, clinical staging can be useful in determining the intensity of health service that should be dedicated to youth. See article #4

1. Riggs, N. R., & Pentz, M. A. (2009). Long-Term Effects of Adolescent Marijuana Use Prevention on Adult Mental Health Services Utilization: The Midwestern Prevention Project. *Substance Use & Misuse*, 44(5), 616–631. <http://doi.org/10.1080/10826080902809691>
 - a. **Objective:** to determine if early marijuana use is associated with mental health service utilization, and if so, an early intervention aimed at reducing marijuana use could decrease the utilization of mental health services
 - b. **Method:**
 - i. **Study population:** 961 students in Kansas City who were longitudinally tracked and surveyed through middle school to age 30
 - ii. **Method:** longitudinal prospective cohort study
 - iii. **Primary objective measure:** correlation between marijuana use and later mental health service utilization rate, as measured by a growth model and t values; the mediating effect of substance use prevention program (The Midwestern Prevention Project) on service utilization
 - c. **Result:**
 - i. Increased level of weekly marijuana use during high school was associated with increased use of mental health services later in adulthood ($\beta = 0.09$, $p < 0.01$).
 - ii. Substance use intervention program in middle school was associated with decreased weekly marijuana use throughout high school ($\beta = -0.12$, $p < 0.001$)
 - iii. There was a mediating effect of substance use intervention program in reducing future mental health service utilization by reducing weekly marijuana use throughout high school ($z = -2.27$, $p < .05$)
 - d. **Conclusion:**
 - i. This well designed prospective cohort study provides strong evidence for the positive association between marijuana use in high school and later mental health service utilization in adulthood. It also demonstrates a robust effect of early substance use intervention program in reducing weekly marijuana use throughout high school, which in turn has a mediating effect on reducing mental health service utilization later in adulthood. Therefore, youth with substance use problems can benefit from an early intervention program, which could also reduce service utilization in the future as well.
 - e. **Level of evidence:** II. 1 (well-designed prospective cohort study)
2. Hussey, D. L., Drinkard, A. M., Falletta, L., & Flannery, D. J. (2008). Understanding Clinical Complexity in Delinquent Youth: Comorbidities, Service Utilization, Cost, and Outcomes. *Journal of Psychoactive Drugs*, 40(1), 85–95. <http://doi.org/10.1080/02791072.2008.10399764>
 - a. **Objective:** to describe multiple comorbidities existing in delinquent youth in juvenile detention population and their impact on mental health service utilization; also, to evaluate the impact of mental health service on recovery from mental health concerns
 - b. **Method:**
 - i. **Study population:** 188 juvenile offenders in Cuyahoga County detention centre in US who have a history of substance abuse and were enrolled in a substance use intervention program
 - ii. **Design:** a prospective cohort study involving questionnaires for substance use problems, emotional problems, delinquency, externalizing behaviours, internalizing distress, environmental risk, conflict resolution skills, victimization, and service utilization
 - iii. **Primary objective measure:** service utilization cost difference between male and female, between low and high risk groups; the type of services accessed by each group; delinquency score pre and post substance use intervention in high and low risk groups

- c. **Result:** Youth accessed mental health services for problems such as emotional distress, internalizing and externalizing disorders, victimization, and interpersonal conflicts. Also, girls who were classified into the high-risk group were the highest utilizers of mental health service, requiring multiple services involving familial, emotional, and mental health interventions. Finally, the substance abuse intervention was highly effective, and by the end of 12 month follow-up, both the high-risk and low-risk clusters showed marked reduction in substance problem scale and achieved similar scores in substance, emotional, and self-reported delinquent problems.
 - d. **Conclusion:** Despite the small sample size, the longitudinal nature of the prospective cohort study provides solid evidence that youth with delinquency are at higher risk of utilizing mental health services for problems such as emotional distress, internalizing and externalizing disorders, familial and interpersonal conflicts. Despite the multiple mental health concerns, the result of 12-month intervention shows potential for improvement in substance, emotional, and delinquent related issues in both high-risk and low-risk groups of delinquent youth. Therefore, it is important to properly address multiple mental health issues of delinquent youth through a professional resource.
 - e. **Level of evidence:** II.2 (well-designed prospective cohort study)
3. Jaycox, L. H., Morral, A. R., & Juvonen, J. (2001). Mental Health and Medical Problems and Service Use Among Adolescent Substance Users. *Journal of the American Academy of Child & Adolescent Psychiatry, 42*(6), 701–709.
 - a. **Objective:** to characterize the type of mental health services received by youth admitted to substance abuse treatment
 - b. **Method:**
 - i. **Sample:** 1,088 youth aged 12-19, admitted to one of the seven substance abuse treatment programs across the United States between 1998 and 2001
 - ii. **Design:** a large demographic study on adolescents who are admitted to the substance abuse program
 - iii. **Primary objective measure:** Prevalence of co-morbidities in youth with substance problems and their access to mental health service
 - c. **Result:** Youth entering the substance program had multiple concurrent disorders. For instance, of 1,088 youth, 44% had clinically significant emotional distress; 50% qualified for ADHD, and 2/3 met the criteria for conduct disorder. Despite the high prevalence of co-morbid mental health problems, 54% of those reported severe mental health issue had not received mental health services 3 months prior to entering the intervention program.
 - d. **Conclusion:** The large demographic study provides fair evidence that youth who suffer substance abuse can present with other co-morbid problems. Therefore, youth with substance abuse problems belong to a high-risk group that requires an early and comprehensive intervention. Given the low level utilization of mental health services by these teens, it is crucial for clinicians to identify these youth early on and connect them to an intervention program.
 - e. **Level of evidence:** II. 2 (large epidemiological study without a distinct control group)
 4. Cross, S. P. M., Hermens, D. F., & Hickie, I. B. (2016). Treatment patterns and short-term outcomes in an early intervention youth mental health service. *Early Intervention in Psychiatry, 10*(1), 88–97. <http://doi.org/10.1111/eip.12191>
 - a. **Objective:** to classify youth seeking mental health care into low and high risk groups and see if they differ in the treatments they receive and the short-term outcomes after the treatment
 - b. **Method:**

- i. **Sample:** 890 youth aged 12-15 seeking mental health care in a mental health service centre in Sydney, Australia
- ii. **Design:** a prospective cohort study involving comparison of low vs. high symptomatic groups
- iii. **Primary outcome measure:** statistical difference in treatments received and psychological distress and social functioning pre and post ten treatment sessions
- c. **Result:** Youth who are deemed to have more severe symptoms utilized more treatments than youth who are mildly symptomatic. After ten treatments, both mild and severe groups improved at the same rate. However, milder group exited the treatment with better functioning, while the severe group exited the service without achieving the same functioning score as the milder group, despite higher service utilization.
- d. **Conclusion:** Given the longitudinal nature of the cohort study and the large sample size, the study provides strong evidence that patients with more severe symptoms require higher service utilization on a longer-term basis to achieve similar functioning as their mildly symptomatic counterparts. Additionally, clinical staging can be useful in determining and predicting the intensity of health service that should be dedicated to the youth.
- e. **Level of evidence:** II. 1 (well-designed prospective cohort study)

Appendix: Guide for Level of Evidence

Canadian Task Force on the Periodic Health Examination's Levels of Evidence*

Level	Type of evidence
I	At least 1 RCT with proper randomization
II.1	Well designed cohort or case-control study
II.2	Time series comparisons or dramatic results from uncontrolled studies
III	Expert opinions