
Incorporating a Routine Cannabis-Specific ASSIST Screen in Student Health Primary Care ADHD Visits: A Quality Improvement Study



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DNP Project Defense

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Introduction and Background

Rise of recreational cannabis use with legalization and use for medical purposes (National Conference of State Legislatures, 2022)

With these changes brings stronger forms of cannabis, a false reassurance of safety, normalization of use, and perceptions that it is non-addictive

There are medical and psychiatric associations and consequences of use

People aged 18-25 have the highest rates of use (Substance Abuse and Mental Health Services Administration [SAMHSA], 2022)

College students with Attention-Deficit/Hyperactivity Disorder (ADHD) are a particularly high-risk population; an ADHD diagnosis is associated with greater impairment to substance use, more academic concerns, and lower GPAs (Mochrie et al., 2020)

Project Question

- For university students visiting student health center (SHC) primary care for monthly ADHD refills who self-identify for having tried cannabis, will incorporating a standardized screening tool for cannabis into the EMR improve the assessment of risk and overall patient care, in comparison to the period the prior year?

Review of the Literature: Analysis



Theme 1: Screening Strategy

7 of the 8 articles used the ASSIST
4 explored alternative formats to the standard in-person clinician-structured screen



Theme 2: Feasibility and Validity

Screening and brief intervention
Self-report and/or expanded upon computerized screens



Theme 3: Intervention

4 articles included brief intervention as indicated by ASSIST scores (in-person and/or computerized)

Review of the Literature (cont.)

Major Conclusions

1. The ASSIST dominated as the tool used for cannabis use screen
2. Screening and brief interventions are feasible for this population and setting
3. The traditional clinician-structured interview is a valid and reliable screen
4. Non-clinician administered formats (computerized and self-report) are also efficacious and should be considered
5. Brief interventions are mixed; more research is indicated

Gaps

- No high-quality studies of screening within the University setting
- All single-setting specific studies that are not generalizable but transferable

ASSIST (Modified: Cannabis-Specific)

QUESTION 1: In your life, have you <i>ever used</i> the following substance (non-medical use only)		
Cannabis (marijuana, pot, grass, hash, etc)	YES	NO

Question 2: In the <i>past three months</i> , how often have you used cannabis?				
Never	Once or twice	Monthly	Weekly	Daily or almost daily
0	2	3	4	6

Question 3: During the <i>past three months</i> , how often have you had a strong desire or urge to use cannabis?				
Never	Once or twice	Monthly	Weekly	Daily or almost daily
0	3	4	5	6

Question 4: During the <i>past three months</i> , how often has your use of cannabis led to health, social, legal, or financial problems?				
Never	Once or twice	Monthly	Weekly	Daily or almost daily
0	4	5	6	7

Question 5: During the <i>past three months</i> , how often have you failed to do what was normally expected of you because of your use of cannabis?				
Never	Once or twice	Monthly	Weekly	Daily or almost daily
0	5	6	7	8

Question 6: Has a friend or relative or anyone else <i>ever</i> expressed concern about your use of cannabis?		
No, never	Yes, in the past 3 months	Yes, but not in the past 3 months
0	6	3

Question 7: Have you <i>ever</i> tried to cut down on using cannabis but failed?		
No, never	Yes, in the past 3 months	Yes, but not in the past 3 months
0	6	3

Scores

0-3: Low risk

4-26: Moderate risk

27+: High risk

Methods

Purpose of the Project

- The purpose of this project was to implement and evaluate the addition of the cannabis-specific ASSIST into primary care ADHD visits at a University SHC to standardize the assessment of cannabis use risk and improve patient quality of care.

Design: Quality Improvement

- Rationale: The practice setting had an existing process for substance screening with these visit types but it was inconsistent

Setting

- A University Student Health Center (SHC) servicing all actively enrolled students
- Private institution in a metropolitan area where cannabis is legal
- Student population of ~15k
- **Campus Diversity**
 - 48.3% White, 10.9% Hispanic/Latino, 10.1% Black/AA, 5.93% Asian, 4.63% two or more races, <1% American Indian or Alaskan Native and <1% Native Hawaiian or other pacific islander
 - >10% first generation
 - >95% out-of-state
 - >4% international students; 134 countries (DataUSA, n.d.)
- 8 General Practitioners at SHC (5 FT)
- 2 Psychiatric Prescribers
- 2 Registered Nurses
- 3 Patient Care Representatives (PCRs)

Equity and Inclusion

- SHC writes academic accommodations for students diagnosed with ADHD
- All enrolled students have access to SHC services
- Services are self-selected
- Students with limited financial means may have visit charges waived

Description of the Sample

Inclusion Criteria

- Actively enrolled undergraduate and graduate students presenting for monthly ADHD visits with primary care
- Specific types of visits: ADHD 1st visit and ADHD follow-up visits (both in-person and via telehealth)

Exclusion Criteria

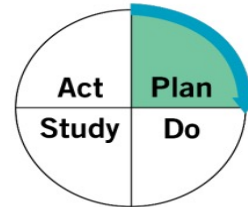
- Students with ADHD who are seeing psychiatry for monthly ADHD refills (due to management of comorbid concerns)

Protection of Human Subjects

- Students are a vulnerable population
- Institutional Review Board (IRB)
 - Practice site deferred to University of Virginia (UVA) IRB for determination
 - UVA IRB determined this project to be non-human subject research
- Student Health records are covered by FERPA

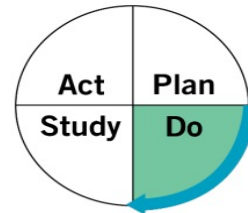
Theoretical Framework: Plan-Do- Study-Act (PDSA)

Instructions



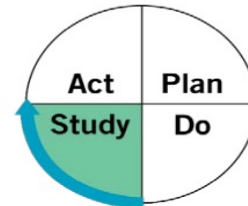
Plan: Plan the test, including a plan for collecting data.

- State the question you want to answer and make a prediction about what you think will happen.
- Develop a plan to test the change. (Who? What? When? Where?)
- Identify what data you will need to collect.



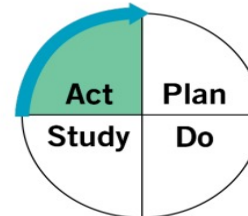
Do: Run the test on a small scale.

- Carry out the test.
- Document problems and unexpected observations.
- Collect and begin to analyze the data.



Study: Analyze the results and compare them to your predictions.

- Complete, as a team, if possible, your analysis of the data.
- Compare the data to your prediction.
- Summarize and reflect on what you learned.



Act: Based on what you learned from the test, make a plan for your next step.

- Adapt (make modifications and run another test), adopt (test the change on a larger scale), or abandon (don't do another test on this change idea).
- Prepare a plan for the next PDSA.

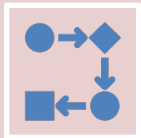
(Institute for Healthcare Improvement [IHI], 2022).

PDSA Part 1: Answer Fundamental Questions



Aim: What are we trying to accomplish?

Improve identification of risk and quality of care



Establishing measures: How will we know that a change is an improvement?

Measures will be discussed on the following slide



Selecting changes: What change can we make that will result in improvement?

Implement a cannabis-specific screen

Definition of Terms

Measure **ASSIST scores** Low (0-3) moderate (4-26)
#1 high (27+)

Data: Fall 2022 ADHD visits

Measure **Clinician Burden** Data: Time of duration of
#2 visit (2021 vs 2022)

Data: Survey questionnaire
from GPs

Measure **AUDIT** YES/NO for data collected
#3 (2021 vs 2022)

Data: EMR Fall 2021 visit info
compared to Fall 2022

Part 2: Run PDSA Cycle

Anonymous clinician
questionnaires
completed cycle 1, 2,
and 3 via Qualtrics link

With indicated changes,
a new worksheet and
cycle were completed.

3 cycles were completed
between September 26th
November 18th, 2022

Template: PDSA Worksheet

Objective:

Incorporate the cannabis-specific ASSIST screen into ADHD refill visits in hopes of improving standardization of information collected, identification of risk, and that care is customized to reflect the individuals' needs



1. Plan: Plan the test, including a plan for collecting data.

Questions and predictions:

- How much extra time will the ASSIST add to visit times? (It will take more time at first, an extra 5-7 minutes, but that will reduce with exposure and use)
- Will it feel worthwhile to the clinicians? Or feel more burdensome? (Increased use will lead to more ease of use and comfort of customizing care).

Who, what, where, when:

All prescribers completing ADHD refills will complete the cannabis-specific ASSIST (7 questions) will eligible students at the University Health Center

Plan for collecting data:

At the end of the week (1-4) each clinician will complete the brief survey questionnaire. Other data collection (time of visits, ASSIST scores, AUDIT)



2. Do: Run the test on a small scale.

Describe what happened. What data did you collect? What observations did you make?

PENDING

PDSA Cycles

Cycle 1: 3 weeks. 54% completion

Screen completed as a pre-visit form (automatically released) OR screen was pulled into the template by the clinician for completion

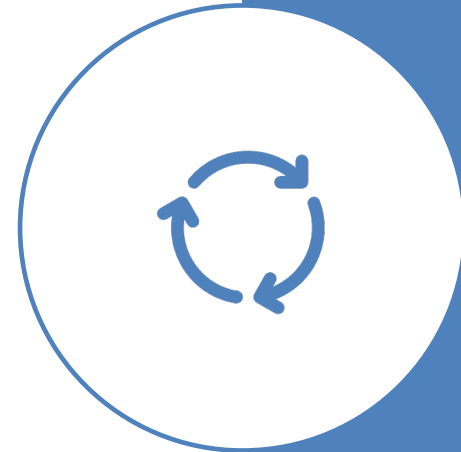
Cycle 2: 3 weeks. 64% completion

Front desk: encouraged pre-visit form OR provided a handout

Results for risk score for moderate and severe made into a secure message for ease

Cycle 3: 2 weeks. 60% completion

Screen was put directly into template (versus option to pull it in)



Procedures (other)

Educated prescribers

- On use of the cannabis-specific ASSIST
- Rationale

Contrived

- Score scripts
- Resources to provide to students

PDSA

- Ran 3 cycles
- Clinician surveys/questionnaires completed after each cycle

Data collection

-Conferred with Director of Information Security at practice site

-PyraMed (EMR)

Data Analysis

Statistical Tests: Non-parametric (Chi-squared, Mann-Whitney U)

Descriptive statistics

- Demographic data (identified gender at birth and undergrad vs graduate student)

Demographics

Comparing 2021 to 2022 sample

No statistically significant difference between gender nor undergraduate vs graduate

Analysis: Chi-squared

Table 1

Demographic Characteristics of 2021 and 2022

Characteristic	2021		2022	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Gender				
Female	68	66.7	86	60.6
Male	34	33.3	56	39.4
Class				
Undergraduate	60	58.5	80	56.7
Graduate	42	41.2	61	43.3

Outcome Measure #1 ASSIST Scores

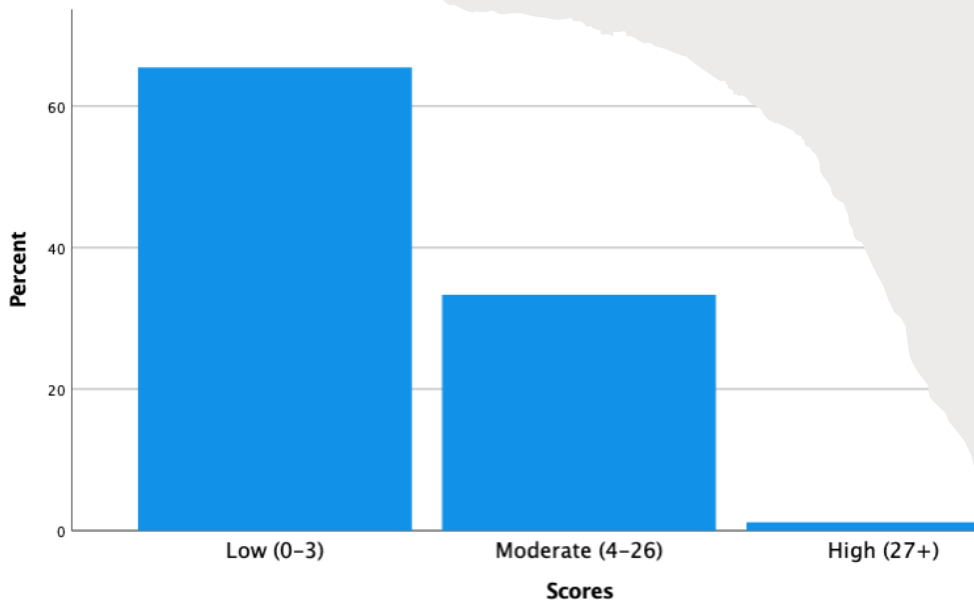
For screening scores, there was no significant difference in gender nor undergraduate vs graduate

Analysis: Mann Whitney U (skewed); null hypotheses retained

LOW RISK: 65%

MODERATE RISK: 33%

HIGH RISK: 1.2%



Outcome Measure

#2 Clinician Burden

(Visit Minutes)

The distribution of visit minutes (2021 vs 2022) were *not* statistically significant

Implication: Adding the screen did not influence the time of visits

Analysis: Mann Whitney U (skewed)



In my opinion, screening for cannabis use risk is important in the college health setting

Strongly agree

50%, 60%

Somewhat agree

50%, 40%

Neither agree nor disagree

Somewhat disagree

Strongly disagree

Outcome Measure #2

Clinician Burden (Surveys)

Cycle 1 vs Cycle 3

Clinician Responses via

Qualtrics

BLACK = Cycle 1 Answers

RED = Cycle 3 Answers

In my opinion, standardized screening for cannabis use adds additional clinician burden to ADHD visits

Strongly agree

75%, 80%

Somewhat agree

25%, 20%

Neither agree nor disagree

Somewhat disagree

Strongly disagree

Outcome Measure #2 continued

(Surveys)

In my opinion, the benefits of standardized screening for cannabis use risk outweigh the extra clinician burden



Outcome Measure #3 Audit

Cannabis use

- No sig difference for asking about cannabis use (Yes/No) between 2021 and 2022
- 2021: 92%, 2022: 96.5%
- Analysis: Chi-squared (*Fisher)

Frequency of use

- **Statistically significant difference** between 2021 and 2022
- 2021: **8.8%**, 2022: **68.3%**
- Analysis: Chi-squared (Pearson 2-sided, <.001)

Consequences of use

- **Statistically significant difference** between 2021 and 2022
- 2021: **0%**, 2022: **60.6%**
- Analysis: Chi-squared (Pearson 2-sided, <.001)

Completed Screen in 2022

Asked about
cannabis use:

61.3%

Had screen
completed

Asked about
frequency of use:

86.6%

Had screen
completed

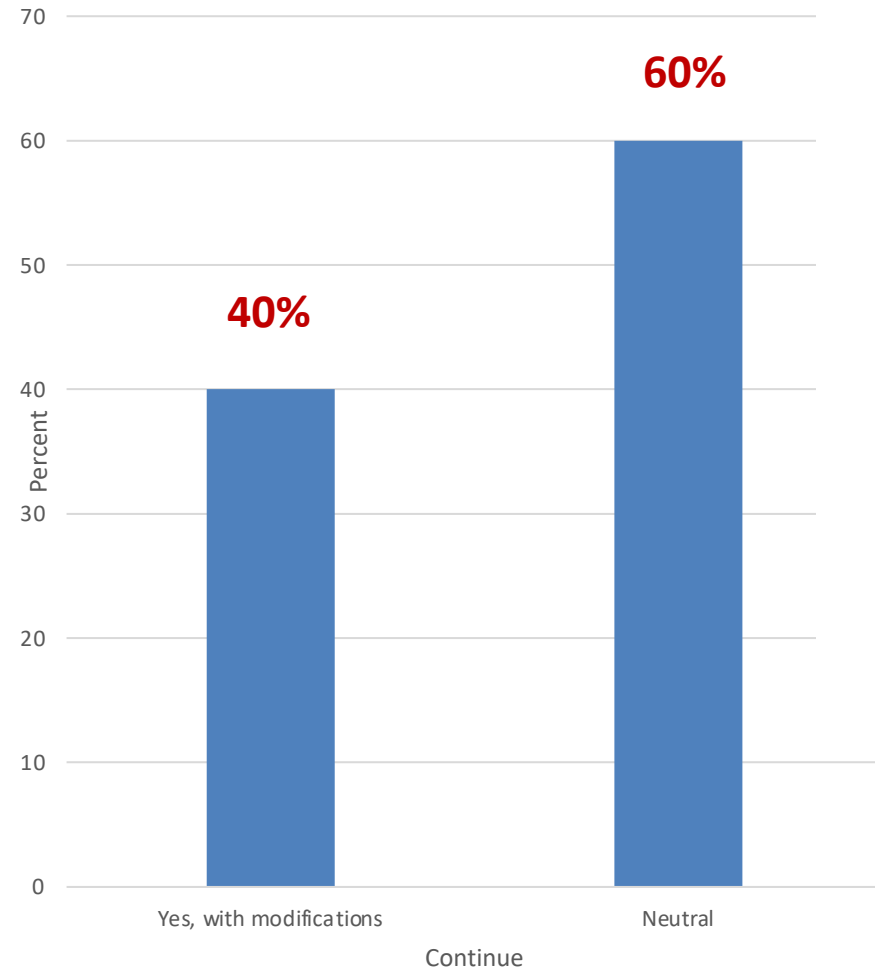
Asked about
consequences of
use: **97.7%**

Had screen
completed

Prescriber Input

Continue Cannabis Screen

Should SHC continue standardized cannabis screening?



YES - With the current process

YES - But with proposed modifications (*please elaborate below)

NEUTRAL for continuing or discontinuing standardized cannabis screening

NO (*please elaborate below)

Proposed Modification:
Change the frequency of
cannabis screening

Summary of Analysis

No differences in groups (demographics) between 2021 vs 2022; no difference in scores (male vs female, undergrad vs grad)

59% of eligible visits in Fall 2022 ADHD visits incorporated the screen

No significant increase in clinician burden

Of completed screens 65% were categorized Low Risk and 33% were Moderate Risk

Statistical difference between 2021 and 2022 for collecting information on frequency of use and consequences of use

Sustainability Plan

- Consider baseline completion then every 3 months for students with Cannabis-Specific ASSIST screen scores of moderate or high risk
- Vitals are also completed every 3 months; align it for ease
- Retain the screen in the visit template
- Consider: how to increase the self-reported, computerized methods (pre-visit forms)
- PDSA: continuous

Strengths & Limitations

Strengths

- Project identified a gap and issue with current trends, nationally (cannabis use)
- SHC GPs interest in learning about cannabis
- ***FINANCIAL:** No additional cost for IT data collection
- Though clinicians were worried about time, results indicate that the screen did not significantly impact the average length of visits in comparison to 2021

Limitations

- Self-reported client data
- Limited time (8 weeks)
- Demands of “triple-demic” of Fall 2022

Advanced Practice Nursing Implications

Providing better care (screening, education, and referrals) for students specific to cannabis use and their level of risk

Long-term: Potential reduced frequency of cannabis use, and reduced consequences of use, with attention and awareness (including impact on academic performance)



Products of the
Scholarly Project
(Dissemination)

- UVA Libra
- Present to Office of Campus Life including SHC (Internal)
- Publishable manuscript: JACH (impact factor: 3.093)



SPECIAL THANKS

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Dan Wilson (Nursing Librarian)

PyraMed Representative

General Practitioners at Practice Site

Practice Site Medical Director

Research Compliance Manager at
Practice Site

Director of Information Security at
Practice Site

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Questions?